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ABSTRACT

The outcomes and impacts of adult literacy education in the United States were examined through a qualitative assessment of the pertinent research conducted since the late 1960s. A comprehensive literature search was used to identify; the most credible outcomes and impacts studies, and case studies were prepared for these. This document contains the abstracts of 46 studies used in this assessment. Each abstract begins with the following bibliographic information: author(s) or institution(s) or editor(s); year of publication; title; publisher; and ERIC Document Reproduction Service Number, if applicable. The body of the abstract is divided into the following categories: purpose; variables; population; design; data collection; instrumentation; findings; strengths; and weaknesses. (YLB)

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National Center for the Study of Adult Learning and Literacy

THE OUTCOMES AND IMPACTS OF ADULT LITERACY EDUCATION IN THE UNITED STATES APPENDIX A: ABSTRACTS OF STUDIES REVIEWED

by

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Aker, G., Jahns, I., & Schroeder, W. (1968). *Evaluation of an adult basic education program in a southern rural community.* Tallahassee, FL: Florida State University, Department of Adult Education. (ERIC Document Reproduction Service No. ED 388 780)

Purpose: This evaluation was the second phase of an evaluative study of an adult basic education program for seasonal farm workers. Phase I used observations and a case-study approach to make recommendations about student screening, curriculum, instructional staff, and program expansion.

Variables: Outcome variables were grade-level progression and student satisfaction. Quality of learning was measured by a Likert scale on a questionnaire. Sources of greatest satisfaction were measured by indicating "specific subject matter," "learning in general," "prepare for a job," "relate to other people," "miscellaneous," and "no response." Other variables included the rate of student dropout, appraisals of instructional staff, and the relationship between program success and the characteristics of students and instructional staff.

Population: A random sample yielded 305 students ($N = 305$). Fifty-three percent were male. Most of the students were between 40 and 59 years old (56%). The mean pretest grade-level distribution was 2.6. A 33% representative sampling procedure assured a relative distribution of students in rural and urban centers.

Design: This study was a pre-post comparison.

Data Collection: The data were collected via standardized tests, questionnaires, and interview schedules. Existing student records were also used.

Instrumentation: The standardized test used to measure reading gains was not mentioned. Quality of learning was measured by a Likert scale.

Findings: All students who persisted in the program made some type of reading gain. The distribution range at pretest was 0.0-8.1. The posttest range was 1.1-11.4. The mean increased from 2.6 to 4.9; the median from 2.7 to 4.5. A majority gained from 1.0 to 3.9 grade levels during the course of the program. Students who received the lower pretest scores were more likely to achieve at the higher levels. A t test by program site revealed that each center secured a mean gain which could have been due to chance less than one time in a hundred.

Fifty-six percent of the students indicated that their learning resulted from participation in the program and that "very much" learning had taken place. The retention rate of students was 72.4%. Age was negatively associate with dropout. The older the student, the less the likelihood of dropping out.

Strengths: The research design was competent. Researchers examined the relationship between characteristics of students and staff and program success.

Weaknesses: The standardized reading test was not identified. Questionnaires seemed poorly designed and their methodology was not described. Program success was measured by only two criteria, grade-level gain and rate of dropout. There was no control group.

Alamprese, J. (1987). *Investing in change: Competency-based adult education in California.* Sacramento, CA: California State Department of Education.

Purpose: This study had two purposes: (a) to determine how 306 agency personnel had interpreted California's competency-based adult education (CBAE) mandate, and (b) to ascertain the effects of the mandate on agency management, classroom functioning, and student outcomes. Only the portion dealing with student outcomes is abstracted here.

Variables: The variables were tested learning gain and retention.

Population: The population was adult literacy and ESL students in California. For tested learning gain, the population was 3,950 in 1983-84 and 6,413 in 1984-85.

Design: The design was pre- and posttesting for learning gain. Program and state records were used for retention.

Data Collection: Students were posttested after 100 hours of instruction. A sample of programs identified as high-implementing on the CBAE mandate was compared to a sample of low-implementing programs.

Instrumentation: The CASAS achievement test was used.

Findings: In 1983-84, the average gain on the CASAS was 6.8. In 1984-85, the gain for high-implementing agencies was 5.0; it was 3.5 for low-implementing agencies. Retention rates in 1983-84 were 50% (N = 446 classes), 59% in 1983-85 (N = 561 classes), and 49% in 1984-85 (N = 984 classes). At 100 hours, the

retention rate for high-implementing programs was 66.5% versus 47.4% for low-implementing programs.

Strengths: The sample was a respectable size.

Weaknesses: There were few outcome variables and no control group.

Alamprese, J. (1993). *Systematizing adult education: Final report of the Connecticut Adult Performance Program (CAPP).* Washington, DC: COSMOS Corp.

Purpose: This document reported the formative evaluation of the Connecticut Adult Performance Program (CAPP), a five-year initiative to improve the state's adult literacy education. CAPP was a comprehensive system that included program management, staff development, etc. The evaluation was designed to collect information on the areas of program operation that required technical assistance and training; assess the impact of CAPP on program management and operations; and determine the effectiveness of the Bureau of Adult Education and Training in conducting the CAPP initiative. Although much of the evaluation and report focused on management issues, a portion focused on learner outcomes. That portion is reported here.

Variables: Measurements included tested growth in basic skills and learners' attainment of their individual goals.

Population: The sample consisted of adult literacy education students enrolled in a life-skills program adapted from CASAS. Students were pre- and posttested from 1987 through 1991. Numbers varied by year and by the level of instruction. In 1987-1988, there were 482 valid cases for reading and 197 for listening. In 1990-91, there were 1,068 valid cases for reading and 1,879 for listening. Students' attainment of personal goals was also measured through a survey. The total population was 1,271 for 1987-88; 1,771 for 1988-89; 2,714 for 1989-90; and 11,001 for 1990-91.

Design: The design was a longitudinal pre- and posttesting comparison for learning gain.

Data Collection: A multi-faceted data collection process was designed which included development of monitoring instruments, site observations, analysis of program and student assessment information and participation in state-sponsored meetings.

Instrumentation: The test, known as the CAPP Survey Achievement Pre and Post, was adapted from the CASAS test. The test measured gains in reading and listening. Data on the reliability and validity of the test were not reported. Data on learners' achievement of their personal goals were collected using a survey instrument, CAPP Goal Attainment. A yearly survey was used to measure attainment of personal learning goals.

Findings: Levels *a* and *b* gain scores were highest for reading in 1987 (9.9 for level *a*; 7.5 for level *b*), and declined in 1988 and 1989. In 1990 scores increased to 7.2 for level *a* and 6.1 for level *b*. Gain scores for level *c* ranged from 4.1 in 1987 to 4.6 in 1990. For listening, gain scores for level *a* in 1987 were the highest (10.1) and declined to the five-point range in subsequent years. Gains for level *b* were also highest in 1987 and declined in future years. Scores for level *c* were highest in 1988 and declined to about the 1.5 range thereafter. Although tests of statistical significance were not reported, the substantial sample size would suggest that the gains were significantly different.

Data from the survey showed yearly retention figures of 63% for 1987, 59% for 1988, 66% for 1989, and 42% for 1991. In 1990, 15% of all students (both retained and no longer active) achieved their personal goals and left the program, 14% left the program because of barriers, and 30% left the program for unknown reasons.

Strengths: The sample size was relatively large. Yearly data were collected over four years.

Weaknesses: Fine points of design and methodology were not reported. There was no control or comparison group. The test for learning gain was unique; hence, gain can not be compared with data from other programs. The time period between pre- and posttesting was not reported.

Alpena Community College. (1993). *Alpena Community College Workplace Partnership Project.* MI: Author. (ERIC Document Reproduction Service No. ED 356 345) Alpena: MI.

Purpose: This project was funded by the National Workplace Literacy Program from May 31, 1991 to January 31, 1993. The partnership included the college, Besser Company, Baker Company, and Fletcher Paper Company. The work-site classes included reading, mathematics, and communications. Class content was based on the needs of adult learners. Several of the mathematics courses were rather advanced (e.g., trigonometry and algebra). Classes were held at the work

site and consisted of 16 contact hours. At one site the classes were on-the-clock; at two sites they were off-the-clock.

Variables: Reading gains and attitudes regarding the classes (including some measures on how the classes impacted the participants) were measured.

Population: Two hundred and thirty adults participated in the classes. The majority (176) worked for the Besser Company.

Design: The design was pre-post comparison and evaluated by an independent consultant.

Data Collection: Project staff collected the data. However, for a variety of reasons, they discontinued administering the tests halfway through the project. The pre- and posttest data were analyzed using *t* tests for related samples. Each subject area was analyzed separately.

Instrumentation: The Educational Testing Service's Tests of Applied Literacy Skills (TALS) were used to measure reading and math gains. Attitudes were measured quantitatively by a Likert scale in a questionnaire and qualitatively by an instrument with open-ended questions.

Findings: Analyses of the pre- and posttest data of reading, math, algebra, and communication scores showed no significant increases, although the posttest means were higher. Learners' self-esteem increased. All responded positively to the statement, "You feel more confident about your learning abilities because of this class." Qualitatively, the most common positive response involved increase in self-confidence.

Strengths: The data collected generated quantitative and qualitative data.

Weaknesses: Data were incomplete. The collection process was haphazard. Data did not seem to be collected from all participants. Class time of 16 hours was too short to show significant gains. There was no control group. The sample size for each class was small.

Appalachian Adult Basic Education Demonstration Center. (1970). ***Demonstration, developmental and research project for programs, materials, facilities and educational technology for undereducated adults. Long range follow-up of adult education participants: West Virginia state module. Final report series.*** **Morehead, KY: Morehead State University. (ERIC Document Reproduction Service No. ED 054 411)**

Purpose: The Long Range Follow-Up Survey (LRFUS) had two main objectives: (a) to follow a sample of ABE graduates for three years and (b) provide a three-year supportive program to reinforce the ABE experience. Inherent in both objectives was the intent to create another model (rather than standardized reading tests) for assessing impact. The second year of implementation is described here.

Variables: LRFUS sought to measure the relevance and impact of ABE on the economic, family, educational, and community lives of the former students.

Population: Eighty-five former ABE participants were drawn from rural and urban areas of three counties in West Virginia. By the study's second year, nine people were no longer part of the sample. Group I consisted of 30 men who had taken part in the original field study and were enrolled in compulsory Title V and WIN programs. Group IV consisted of 25 men who were assigned a combination of ABE and diesel mechanic class. Groups II and III were 30 female former volunteers from Title III ABE. Most of the students from all four groups were Level III ABE participants.

Design: This follow-up study utilized a case-study design.

Data Collection: The sample population was divided into four groups. Each group was followed by a different teacher-counselor. Originally the design called for the LRFUS subjects to be compared with a matched control group, but the researchers decided against it.

Instrumentation: There was no instrumentation. However, in supporting the LRFUS subjects (one of the objectives), the researchers used a combination of newsletters, picnics, and personal contacts. The study used a 15-item questionnaire to gather follow-up data.

Findings: This follow up was a description of the second year of a three-year study. No comprehensive analysis of results was provided.

Strengths: This study had no real strengths other than the objectives of this study, which seemed solid.

Weaknesses: Numerous case studies were provided with no analyses. There was no control group.

Askov, E., Maclay, C., & Bixler, B. (1992). An intergenerational study of the impact of computer-assisted instruction with low-literate parents. In T. Sticht, M. Beeler, & B. McDonald (Eds.), *Intergenerational transfer of cognitive skills: Volume I: programs, policy, and research issues* (pp. 149-158). Norwood, NJ: Ablex Publishing Corp.

Purpose: Computer-assisted instruction (CAI) courseware was developed by Penn State for parents of Chapter I children receiving compensatory education. The courseware used a whole-word approach. Its goal was expanded word recognition for nonreaders. A research study measured the impact of the courseware on parents and their children.

Variables: Reading achievement was the sole variable studied.
Population: Parents had to score below a fourth-grade level to be part of the sample. Fifty-two completed the required 20 hours of instruction and had pre- and posttest data. A control group included 24 subjects.

Design: This study employed an experimental design. Pre- and posttest scores were analyzed using analysis of variance for repeated measures. Courseware was used about 80% of the time during instruction.

Data Collection: Teachers administered the battery of tests upon completion of entrance interviews and after 20 hours of instruction.

Instrumentation: The Slosson Oral Reading Test (SORT), two sections of the Baltimore County Design (BCD), and the Bader Reading and Language Inventory were used.

Findings: The scores of the experimental group rose from 3.26 to 3.93 on the SORT, from 18.38 to 23.33 on the BCD-E2 (words in isolation), from 20.13 to 22.67 on the BCD-E3 (words in functional settings), and from 2.33 to 3.63 on the Bader Inventory. Significant differences between the experimental and control groups were found in all four measures (alpha level at .05).

Strengths: There was a control group.

Weaknesses: The sample size was small. Teachers administered the tests to their students. Only one variable was measured.

Association for Community Based Education. (1989). *ACBE evaluations of community based literacy programs: 1988-1989.* Washington, D.C.: Author.

Purpose: "To expand knowledge about these literacy programs, produce credible evidence of their impacts, identify exemplary models and methods."

Variables: A convenience sample of nine community-based adult literacy programs was selected. Each program chose the variables for study from a list of ten. Possible variables included skills in reading, writing, math, and oral language (for ESL); reading and writing activities outside the classroom; fostering children's intellectual activities; community involvement and contributions; self-esteem; self-determination; and retention.

Population: Data were collected from all students in each selected program. The sample size varied by program and the variable studied (in most cases the size was less than 30).

Design: Programs were rewarded with a $5,000 mini-grant for participation. The design was longitudinal. Baseline data were collected no later than the new learners' third session. Follow-up data were collected after about eight weeks and then again after about 30 weeks. At time two, five of the nine programs failed to have 65% of the baseline sample present for measurement. One program was dropped at time three for lack of a usable sample size.

Data Collection: Data were collected at the program by trained staff and generally took between one and two hours.

Instrumentation: The Adult Basic Learning Examination (ABLE) was used to measure reading and math; the California Achievement Test (CAT) to measure writing; and the Basic English Skills Test (BEST) to measure English proficiency for ESL learners. The Association for Community-Based Education (ACBE) developed a survey instrument to measure reading and writing activities outside the classroom, children's intellectual and academic development, and community activities and contributions. The Culture-Free Self Esteem Inventory was used to measure self-esteem and an ACBE-developed instrument was used to measure self-determination. The same versions of the instruments were administered at the two follow-up sessions.

Findings: Six programs selected reading skills as a measured variable. Three of the six programs showed statistically significant gains. Five programs measured writing gains. Only one program showed statistically significant gains at the first follow up, which were not sustained at the second follow up. Two programs measured math gain. No program showed significant gains in math between the first and third data collections. Two programs measured oral English. One program showed a statistically significant gain over seven weeks; the other did not.

Learners' reading activities outside class were measured by eight programs. A "ceiling effect" on the baseline data collection precluded meaningful conclusions. Learners' writing activities outside of class were measured for five programs. Although there was a ceiling affect, it was less pronounced than for reading. Three of five programs showed significant gains.

Only one program measured children's intellectual and academic development. The moderate gains were not statistically significant. Community activities and contributions were measured at two programs. There were significant gains between time one and two, but the gains dissipated at time three for one program and the numbers were insufficient at the other.

Self-esteem was measured in all nine programs. Two thirds of the participants demonstrated low self-esteem at time one. Seven programs had statistically significant gains. Self-determination was measured at seven programs. Three programs had significant gains.

In six programs, 9% of the participants dropped out after two sessions, another 7% dropped out between six and eleven weeks, and an additional 31% left after five months.

Strengths: The study was carefully designed, and the methods and procedures were clearly explained. The measures and instrumentation were solid.

Weaknesses: There were no control or comparison groups. The small sample sizes yielded nonsignificant results for gains that would be significant in larger sample sizes. Because programs were permitted to chose the variables studied in their programs, some variables were studied in only a small number of programs. There was substantial attrition of subjects in the follow-up data collections.

Berkovitz, L. (1994). *Learning with East Aurora families. Project evaluation.* Des Plaines, IL: Adult Learning Resource Center. (ERIC Reproduction Service No. ED 373 187)

Purpose: This evaluation assessed Learning with Aurora Families (LEAF), a one-year family literacy program developed and implemented by Waubonsee Community College. LEAF sought to recruit a minimum of 50 families who had four- and five-year-old children enrolled in at-risk programs. LEAF's objectives included increasing the basic and parenting skills of the adults as well as the readiness skills of the children.

Variables: The outcome variables included the impact of LEAF on the adults' basic skills, academic progress, career plans, and the evolvement of their goals (personal, educational, economic, and parental). It also ascertained changes in parental behaviors.

Population: LEAF included a total of 162 participants from East Aurora. Fifty-two participants were four- and five-year-olds, 51 were parents or other significant adults, and 59 were siblings. The 51 adults included ABE and ESOL students.

Design: LEAF operated in four-week sessions, each divided into five components: (a) adult education, (b) preschool or kindergarten classes, (c) parenting-life skills classes, (d) parent-child and family times, and (d) home visitations. The evaluation was pre-post comparison.

Data Collection: Project staff collected the data. Tests and questionnaires were administered before intervention and at the conclusion of the project. Data were analyzed by an independent evaluator.

Instrumentation: Reading gains were assessed by administrating the Test of Adult Basic Education (TABE). A Likert scale was used to measure parenting goals. A family literacy questionnaire had three components: (a) a nine-item chart on which parents indicated the frequency of their parenting and readiness behavior with their children; (b) a nine-item chart to ascertain the adults' opinions about their children's education; and (c) four open-ended questions to measure project outcomes. The impact of parental behaviors and improvement in family relationships were measured qualitatively by home observations as well from the questionnaires.

Findings: The average attendance of basic skills students who began LEAF in November was 83 hours out of a possible 132 (62% attendance rate). Those who

began in January averaged 83 hours out of a possible 108 (65% attendance rate). Thirteen adults of the original 29 (42%) who were given the pretest also took the posttest. The reading gain average was .86. One participant took and passed the GED test, three were ready to take it, and one enrolled in a community college. Although positive impact on parenting behaviors was indicated, the data from the questionnaires were not adequately summarized. Pretests of the attitude questionnaire about parents' participation in the education of their children were misplaced. However, information from the posttests indicated that parents still felt that teachers were better qualified than they were to instruct their children. Furthermore, they seemed to view their children--but not themselves--as learners.

Strengths: LEAF was a thoughtfully designed program which considered the whole family. Some of the questionnaires were well designed, yielding both quantitative and qualitative data.

Weaknesses: The sample size was small and no control group was used. Analysis of the outcomes was inadequate.

Boyter-Escalona, M. (1995). *Enhancing workers' skills for the workplace and for life. Worker education program final report.* Chicago, IL: Northeastern Illinois University.

Purpose: From May 1993 through March 1995, Northeastern Illinois University, the Amalgamated Clothing and Textile Workers' Union, and local businesses cooperatively implemented a workplace literacy project. The goal was to provide 500 workers with literacy skills needed in the workplace through a partnership between small businesses, community organizations, a labor union, and a university. The project had two components: long-term classes in basic skills and job-specific workshops. The project had four levels of program outcomes: worker, company, union, and university. Only worker outcomes will be discussed in this abstract.

Variables: Studied were math achievement, English vocabulary and general communication skills, self-esteem, participation in union-related activities, enhanced worked performance, and opportunities for promotion.

Population: Four hundred and sixty-five employees participated in the long-term classes. The majority were immigrants from Latin American countries, with significant numbers from Asia. The short-term workshops had 271 participants. The majority were U.S. citizens.

Design: Although the report was primarily descriptive, it included a pre-post comparison component.

Data Collection: Data were collected by project staff throughout the project. Standardized tests were administered at intake, midpoint, and upon exit. An outside evaluator provided a summative evaluation.

Instrumentation: The TABE measured math achievement; the BEST Oral and Literacy Test measured English communication and writing skills; and individual learning plans assessed personal goals. Other instruments used to gather quantitative data were customized work texts, holistic writing samples, attendance records, and company and union records. Qualitative data were collected through student evaluations, progress reports generated by teachers, anecdotal comments, and open-ended interviews.

Findings: The average gain in English oral skills was 5.6 points for ESL students. The average English writing skills gain was 1.0. Those who scored highly on the BEST Oral test were given the BEST Literacy to measure higher-order language skills, averaging a gain of 5.2 points. Twenty students were promoted at their job sites.

Strengths: The project was well designed. Evaluation methods were comprehensive.

Weaknesses: There was no control group. Descriptive analysis of the data was weak.

Bramnick, B. (1981). *Assessment of adult basic education program impact.* Philadelphia, PA: School District of Philadelphia, Division of Adult Education.

Purpose: The impact of ABE was assessed in a sample of classes in 1977-78.

Variables: The variables were self-reported gain in reading, math, writing and consumer skills; enrollment and retention; voting behavior; community participation; and employment.

Population: The sample was selected from 17 classes that met for eight hours per week at ten sites in Philadelphia. This population included 1,216 students; 25% were randomly selected for the study, excluding students with less than 12 hours of instruction. The sample size was 267 students.

Design: The design was post only self-report.

Data Collection: Subjects were surveyed by telephone. The survey included 93 questions. Approximately one third of the sample was reached; the others could not be contacted. The final number was 89. On average 2.6 calls were needed to reach the subject and the interview lasted an average of 10 minutes. The time period between enrollment in the program and data collection was not reported.

Instrumentation: Checklist questionnaires were developed specifically for this project.

Findings: Seventy-eight percent of the students reported improved skills in reading, 81% in math, 80% in writing, and 50% in consumer skills. Fifty-eight percent reported being enrolled in courses other than ABE and 79% planned future enrollment. Eight-four percent were registered to vote, with 77% voting in 1978 and 84% in 1979. Fifty-four percent increased community participation, 47% increased social involvement, 70% felt more confident talking, 33% used the library more frequently, 67% read more books, and 52% read more magazines. Thirty-five percent of those who had children reported increased attendance in PTA meetings, 35% reported increased interaction with their children's teachers, and 70% reported that they helped their children more with homework. Thirty-six percent of the students were employed full or part time. Of the employed, 81% reported that ABE helped them to get a job, 19% reported a promotion, and 44% reported increased job security or pay.

Strengths: The range of impact variables was wide. A detailed report of methods and procedures was provided.

Weaknesses: The sample size was low. There was no control or comparison group. Data were exclusively self-reported. Amount of instruction between enrollment and data collection was not reported.

Brown, E. (1990). *Evaluation of the R.O.A.D. to Success program.* University Park, PA: Institute for the Study of Adult Literacy.

Purpose: R.O.A.D (Real Opportunities for Advancement and Development) to Success was a pilot project developed through a partnership of the Pennsylvania Department of Education, the American Federation of State, County and Municipal Employees, and the Institute for the Study of Adult Literacy. The goal was to improve the reading skills of transportation workers to help them pass the

commercial driver's license (CDL) test. The major components of R.O.A.D. to Success were interactive computer courseware and print-based materials. The evaluation ran from June 1989 to January 1990. Participant outcome variables were measured, and attention was given to the adequacy of curriculum materials and the process by which they were developed and used.

Variables: The outcome variables were reading gains, gains and passing scores on the CDL test, and attainment of the CDL. Several variables related to participant changes in attitudes regarding the program, materials, CDL test, and being a student were also measured.

Population: The treatment group consisted of workers from the Pennsylvania Department of Transportation (PennDOT) who had previously failed the CDL exam. Sixty-eight workers attended the classes and 58 completed 100 hours of instruction. The average age of the students was 41, with an average reading grade of 5.5 and an average of 11 years of formal schooling. The sample was selected in the following manner:

- All PennDOT workers from four counties were administered the Quick Assessment Test (QAT).
- Those who scored less than 80 were given the TABE Locator.
- Those scoring less than 23 (8.6 grade level or lower) were eligible for the program.
- Of 77 eligible workers, 68 enrolled.
- They were given Criterion References Tests (CRT), which measured basic educational skills in context.

A comparison group was chosen in a similar manner for a control group of 10. The comparison group had access to the CDL manual and workbook but not the R.O.A.D. materials or classes.

Design: This study had an experimental design with a comparison group. A chi-square test was computed to measure significant differences in workers' attitudes.

Data Collection: The QAT was administered by Institute staff. The TABE Locator was administered by the Pennsylvania Department of Education and the TABE Survey by project counselors. The tests and survey were administered before and after the program.

Instrumentation: The QAT, CRT, and TABE were given to measure basic skill levels. An attitude survey was also administered. Various instruments (e.g.,

observation forms, teacher response forms) were developed to collect formative data.
Findings: The average CRT score increased from 70.9 to 79.8, a significant difference. However, change between treatment and comparison groups was not significant. On the QAT, the average scores for the treatment group increased significantly from 33.4 to 49.7. A significant difference also appeared between the scores of the treatment and comparison groups. On the TABE, scores increased significantly at the .001 level. Average scores increased from 643 to 700. No posttest data on the TABE were available for the comparison group. Although shifts were apparent in workers' attitudes toward the intended objectives of the program, most questions showed no significant differences.

Strengths: This project was adequately designed and evaluated. It had a comparison group. Various instruments and methods were used to collect data. The data were well analyzed. Scores between tests were correlated.

Weaknesses: Only a few variables were studied. The sample size was low. The comparison group size was significantly smaller than the sample size.

Claus, R., & Quimer, B. (1995). *Saginaw adult basic education: Process and product evaluation report 1994/95.* Saginaw, MI: Department of Evaluation Services. (ERIC Document Reproduction Service No. ED 392 978)

Purpose: This evaluation of the Saginaw City School System's ABE programs studied the process of instruction and products (outcomes) of that instruction during 1994-95. This abstract describes only student achievement and goal attainment data.

Variables: The outcomes component focused on student enrollment, recruitment, dropout prevention, student achievements, objective assignment, and attainment.

Population: The 1,096 students enrolled during the 1994-95 school year were classified as handicapped, ESL, incarcerated, senior citizen, and regular. Of the latter classification, 629 regular ABE students attended at least 12 hours of instruction. They were assigned individual objectives.

Design: This study was pre-post comparison. Data from the 1994-95 school year were compared to data from 1992-93 and 1993-94, and focused primarily on the assignment and completion of student objectives.

Data Collection: Data that described student performance on individually assigned goals were recorded by teachers on the Adult Basic Education Reporting Form. Data on basic skills achievement were collected by the program supervisors and sent to the evaluators. Data were also collected from teacher observations.

Instrumentation: Reading gains were measured by the TABE. It was not clear at what point after 12 hours of instruction the posttests were administered.

Findings: Eighty-seven percent of students who received at least 12 hours of instruction attained their goals, with 64.8% attaining mastery on over 75% of their objectives. (These were objective outcomes for all categories of students.) Four hundred and eight of the regular ABE students (64.9%) completed at least 75% of their objectives. Compared longitudinally, 449 (74.0%) students attained 75% of their goals in 1992-93 and 1993-94. One hundred and eighty-eight (22.7%) students who received at least 12 hours of instruction realized one grade-unit gain.

Strengths: There were few strengths in the outcomes component of this study. However, some of the observational data provided a good indication of what actually occurred in the classroom.

Weaknesses: Attrition was high. There were no rigorous and standardized procedures to attain data on reading gains. There was no control group. The objectives assigned and attained were not delineated nor categorized in the data analyses. Therefore, this data can not be used to make informed conclusions by others.

Connecticut Business and Industry Association. (1992). *Connecticut Business and Industry Association's Statewide Workplace Literacy Project: Final performance report.* Hartford, CT: Author.

Purpose: This report focused primarily on the goals, objectives, and activities of the workplace literacy project. The project centered on nine companies that had identified literacy needs as a result of implementing TQM processes. Only the outcome data are reported here.

Variables: Expected wage gain within six months of completing training and tested learning gain were studied.

Population: The sample consisted of participants in workplace education in nine Connecticut companies.

Design: Companies were asked whether they expected to increase the wages of successful learners and, if so, by how much. Seven of the nine companies administered posttests to determine learning gain.

Data Collection: How the tests were administered was not described. The time interval between pre- and posttesting ranged from 12 weeks to 36 weeks.

Instrumentation: There was little information on the tests. They measured different competencies for each company and were scored in different ways.

Findings: Only five companies supplied data on expected wage increases, of which two provided reliable data. At one site the expected increase was .52, at the other it was .33. Coordinators in neither company were able to stipulate that the gain was necessarily attributable to participation in the literacy program. Gain scores at five companies were computed for 185 participants (29% of the total). Forty-nine percent did not gain at all, 15% gained in the low range (1-20 points), 22% gained in the middle range (21-40 points), and 15% gained in the high range (41-56 points).

Strengths: The one strength was the study's workplace context.

Weaknesses: The sample size was small. There was no established validity or reliability of the tests and the tests were idiosyncratic. There was no comparison group. The description of methods and procedures was meager. The time interval between pre- and posttesting was considerable.

Coplin, J. (1994). *Weck Educational Development Program. Final performance report.* Durham, NC: Weck & Durham Community College.

Purpose: This final report described a workplace literacy program conducted at Weck, Inc. for employees of its manufacturing and warehouse divisions. The job-related curriculum was developed from a task analysis.

Variables: Variables studied were GED completion and learner satisfaction.

Population: There was a sample of 81. Twenty-eight participants lacked high school diplomas.

Design: The descriptive design was post only.

Data Collection: Students were asked about their satisfaction levels. Informal interviews were conducted with company staff. Surveys and written comments were analyzed.

Instrumentation: A 19-item satisfaction survey was used.

Findings: Of the original 36 participants who started in 1991, 11 received their GEDs. Interviews with managers and program staff indicated that the program received support. Students' written comments suggested that satisfaction was high.

Strengths: None.

Weaknesses: There was no formal methodology or procedures. This study measured students' satisfaction only. Results of the survey were not reported.

Coston, C., & Dagard, C. (1995). *Champaign County National Workplace Literacy Project. Final evaluation report.* Urbana, IL: Champaign Board of Education.

Purpose: The Champaign County Workplace Literacy Project was managed through the Champaign Board of Education. Four local companies, major employers in the county, participated in the project. The project had two overall purposes: (a) to provide training to employees based on their needs, and (b) to design and implement a curriculum that targeted job- specific skills to prepare employees for participating in TQM/SPC processes. The project implemented three cycles of classes, each lasting 15 weeks.

Variables: Variables measured were prose literacy (understanding and using information contained in various textual materials) and document literacy (processing information found in documents), mathematics achievement, knowledge and ability to participate in TQM/SPC processes, and the effects of increased worker productivity.

Population: All participants were employees of four local companies. They were selected from various job classes, including maintenance, technical, manufacturing, and administration. Two hundred and fifty-five employees participated in the classes. Standardized pre- and posttest prose achievement data were collected from 161 individuals, document achievement data were collected from 171, and math achievement data from 166.

Design: An external evaluator used the Triphase Evaluation process based on Stuffelbean's decision-making model. The three phases evaluated were input, process, and outcome. The analysis involved a comparison of matched pairs of the pre- and posttest results and a percentage analysis of the observed change during treatment.

Data Collection: Project staff collected data from most sites. The project evaluator analyzed the statistics. No posttest data were collected from two sites. The use of the ABLE was discontinued after the first cycle. Problems arose in collecting interview data from some sites and during some cycles.

Instrumentation: Instruments included participant and supervisor surveys, supervisor interview forms, and two standardized tests (TALS and ABLE).

Findings: Data were inconclusive on the extent to which this project impacted workers' levels of productivity and their understanding and use of SPC and TQM. The aggregate result of prose literacy for all participants demonstrated a statistically significant growth during all cycles, although achievement in document literacy showed no significant growth. In fact, participants experienced a decrease in the average scores on the latter. Most participants experienced statistically significant increases in their math scores.

Strengths: Evaluation methods were comprehensive.

Weaknesses: There was no control group. Data collection procedures were not rigorous. Much of the data were incomplete. The standardized test did not seem to measure what was taught.

Cox. L., & Lane. C. (1981). *Evaluation of the adaptation of the Personalized System of Instruction to nontraditional adult learners. Final report. Volume III: PSI meets ABE.* Durham, NC: Research Triangle Institute. (ERIC Document Reproduction Service No. ED 208 181)

Purpose: The Personalized System of Instruction (PSI) was a self-paced, mastery-oriented system that stressed the use of printed instructional material, immediate feedback, and peer proctors. This method had been successful in teaching college students. The study sought to gauge the effectiveness of PSI on adults in settings other than colleges and universities. The main objective was to answer the question, "Is further investigation of the use of PSI for nontraditional adult learners likely to be worthwhile?" The study was also designed to identify salient areas for further investigation. Some outcome data were generated.
Variables: Outcome variables were reading and mathematics achievement; changes in self-concept, self-dependence, and self-assertiveness; and evidence of increase in life-coping skills.

Population: All participants were ABE students. They were enrolled in classes meeting twice a week for two- or three-hour sessions. One class was situated in a housing authority site, one was at a community school setting, and one in a prison. Most of the students were Black and approximately 90% were female, except for the prison inmates who were all males. Students ranged in age from 18 to 50, but most were 30 to 50 years old.

Design: The research design was a case-study approach. Although the primary emphasis was on collecting observational data from three sites during a six-month implementation, the researchers also collected impact data. They collected data from two other sites for comparison.

Data Collection: To insure baseline data, students in the three research sites and two comparison sites were given the ABLE and self-concept scale within the first four weeks of class. Classroom teachers administered the instruments. Pre- and posttest ABLE data were recorded for ten PSI students and five from the comparison groups. Twelve PSI students and nine comparison group students had pre- and posttest scores on the self-concept scale.

Classroom observations were to be conducted primarily by the classroom teacher, while researchers planned to visit each PSI site once a week. Observational data were summarized by site. Data collected were the numbers of units mastered, pre- and posttest achievement and self- concept scores, and attendance records.

Problems occurred with the interview process. Interviewers spent a lot of time "tracking down" interviewees. There were 319 incomplete interviews: 70% were due to the inability to locate interviewee, 11% were unwilling to participate, and 7% provided very little useful information due to physical, mental, or emotional disabilities.

Instrumentation: Researchers developed several forms to collect observational data. The ABLE was used to collect reading and math achievement data. Self-esteem data were obtained by the Tennessee Self-Concept Scale.

Findings: The PSI students showed average gains of almost one grade level in reading and more than one grade level in math. No such gains were found in the comparison groups. However, the latter group's entry-level scores were much lower than the PSI groups; thus, they did not represent the same population. Self-concept pretest scores were almost identical for the two groups. PSI students showed a slight increase at posttest while the comparison groups showed a slight decrease.

Strengths: There was a comparison group.
Weaknesses: No real conclusions could be reached regarding PSI effect on self-concept because the sample size was so small. The comparison group had a much smaller size than the treatment group and was not representative of the treatment group in all variables measured. The research design and data collection were weak.

Darkenwald, G. (1983). ***Project F.I.S.T.: Functional In-Service Training. Submission prepared for the Joint Dissemination Review Panel.*** **Edison, NJ: Middlesex County College.**

Purpose: Project F.I.S.T. was a volunteer-based administrative and instructional delivery system aimed at meeting the special needs of low-level readers (0-4). F.I.S.T. evaluated its program from 1981 through 1983 to apply for validation by the Joint Dissemination Review Panel (JDRP). It measured tutor and student outcomes. Only the latter is discussed in this abstract.

Variables: Student outcomes measured were reading achievement and change in reading behaviors.

Population: The sample size for both the initial and replication group was 26. All the ABE students lived in New Jersey. The mean age for both groups was 32.5; mean grade completed was 9.2. Fifty-three percent were women. Half were from minority backgrounds (nearly all Black) and 68% were employed.

Design: A single group pre-post design with replication was employed.

Data Collection: Data were collected by project staff under the supervision of an external evaluator who also performed the statistical analyses. The standardized reading test was administered at entry and at four-month intervals.

Instrumentation: The Woodcock Reading Mastery Test was used to measure reading gains. A questionnaire was administered in both studies to gather data on the application of reading skills and other positive life changes due to participation in F.I.S.T.

Findings: In the original study, both the initial and replication groups showed statistically significant gains on the Woodcock. The gains for the replication group were similar to those of another JDRP-approved program, the Jefferson County Adult Reading Project (JCARP). The initial group performed considerably better than the replication and JCARP groups.
All but one of the learners indicated positive life changes and general improvement in reading skills. All 21 items on the questionnaire showed gains. Especially significant was that one fifth of those looking for jobs became employed, nearly three fifths started reading newspapers for the first time, and about a third of the parents began helping their children with schoolwork.

Strengths: The replication design was rigorous. Methodology was well described. Results were compared to another nationally validated program.

Weaknesses: There were low numbers and no control group. The data collection methods for the questionnaire were not well described and it was unclear how it was developed or by whom. Some data were self-reported.

Darling, S. (1982). *Jefferson County Adult Reading Program. Submission prepared for the Joint Dissemination Review Panel.* Louisville, KY: Jefferson County Adult Reading Program, Jefferson County Board of Education.

Purpose: The Jefferson County Adult Reading Program (JCARP) was initiated in 1978 to develop and field test a model adult literacy program. Field testing in 1978-79 provided information to help redefine the model for the 1979-80 funding year. Two years of field testing showed that teachers' certification had little impact on students' progress in reading; materials should be of high interest to adults but designed for those reading below a sixth-grade level; and student reading gains were related to increased hours of instruction. Essential to the subsequent model was the idea that "student-staff interaction would result in consistent attendance and high retention." As a consequence, JCARP integrated a counseling construct into most phases of its program, including student

recruitment, staff training, instructional design, and evaluation. This study was submitted to the Joint Dissemination Review Panel and described data from the field test years as well as the 1980-81 model program.

Variables: The outcome variables were reading gains and attrition rates. Hours of instruction completed were also studied, along with the achievement of student goals (such as employment and education) in 1980-81.

Population: The initial field-test year (1978-79) included 293 students who tested below 4.0 grade equivalent on the SORT. The following year studied 508 students at 26 locations reading up to a 6.0 grade equivalent. During the 1980-81 model year, 591 students enrolled. Of the 1,392 students enrolled, 54% were male and 46% were female; 59.8% were Black and 36% White. Other groups enrolled were categorized as Hispanic, Asian or Pacific Islander, American Indian, or Other. Thirty-nine percent of the students were employed. The median age was 27. Students were considered enrolled once they took a pretest. Separation from a program occurred after one month of nonattendance or when students indicated their withdrawal. Demographic distributions of the JCARP students were similar to other ABE students from Kentucky.

JCARP's attrition rates in 1980-81 were compared with comparable programs in Kentucky. Five hundred and ninety-one learners enrolled in JCARP that year and 706 in 10 comparable programs.

Design: JCARP used an experimental design.

Data Collection: Demographic and attrition data were collected from all 10 ABE centers. Data to compare reading gains were collected from five programs located in urban environments comparable to Jefferson County.

Instrumentation: The TABE (levels E and M) was used to measure reading gains during the comparison year. TABE raw scores were converted to grade equivalent scores. JCARP had a 6.0 grade-equivalent level as a maximum for enrollment, so the SORT was used as a screening instrument. Comparison groups had no such guidelines and screening tests were not used.

During the two field-test years, JCARP used different standardized reading tests to measure reading gains. In 1978-79, the Woodcock Reading Mastery Test was utilized and in 1979-80, the Adult Basic Learning Examination (ABLE).

Findings: At 22%, JCARP participants experienced a lower attrition rate than comparable programs. Among the comparison groups, the highest attrition rate was 80% and the lowest was 52%. A chi-square analysis was significant at the .001 probability level.

JCARP students made significant gains in reading ability. The average gain was 1.53. A *t* test of these results was significant at the .001 probability level. The mean hours of instruction was 82.
The gains of the JCARP participants were compared with those from five other learning centers (173 matched subjects). JCARP students showed a .70 greater equivalent gain than did comparison group participants.

A *t* test on hours of instruction was not statistically significant.

Two hundred and eighty-five students had employment-related goals; 139 achieved them. Eighty-eight JCARP participants of the 325 who listed high school equivalency as a goal made sufficient progress to enroll in GED programs. Furthermore, 62 students enrolled in other education or training programs and 175 students said they planned to continue their education.

Strengths: The study's experimental design included a comparison group. The design was rigorous so it ensured statistical reliability and generalizability. This research included data from a two-year pilot study.

Weaknesses: Although common practice in Kentucky, TABE standardized testing procedures were violated because no time limitations were imposed. Furthermore, comparison data were used only during 1980-81. Because teachers tested their own students in the JCARP program and the comparison programs, tester bias could be a factor making the findings less reliable.

Darling, S., & Hayes, A. (1989). *Breaking the cycle of illiteracy: The Kenan Family Literacy Program model. Final report 1988-89.* Louisville, KY: National Center for Family Literacy.

Purpose: This is the 1988-89 final report of the Kenan Trust Family Literacy Project implemented by the National Center for Family Literacy (NCFL). Seven pilot sites--three in Kentucky and four in North Carolina--implemented the Kenan model. It required basic skills instruction for children and adults in the program. The major goal of the project was to "break the cycle of illiteracy" by integrating early childhood education with basic education and instruction in parenting skills for the parents.

Variables: NCFL and its researchers developed summary profiles of types of adults who enrolled in their programs. The following variables described the differences among groups: (a) degree of acceptance of social norms, (b) commitment to change, (c) hopefulness of change in self and personal conditions, (d) confidence of change, (e) personal capability to learn and change, and (f) supportiveness of environment.

Achievement variables were improvement of parenting skills, increases in home literacy, math and reading achievement, GED attainment, and pursuit of employment or further education.

Population: The sample size for the pilot sites was 114 adults and 288 children. The average age of the parent was 26.6 years. The families averaged 2.7 children.

Design: Data were descriptive with a pre-post component. No systematic research design was evident.

Data Collection: The sites used various procedures and instrumentation to collect data. The report was not clear in describing which procedures were implemented nor when and how they were used.

Instrumentation: Instruments included tests developed by teachers, case studies of families, anecdotal and descriptive records, the TABE, interviews, surveys, and observations.

Findings: The following "types" of parents received GED certificates: Type A--3, Type B--4, Type C--1, Type D--1, Type E--2, Type F--2, and Type G--2. Fifty-nine percent gained over one grade level and 29% gained over two grade levels on the TABE Reading test. Seventy-one percent gained one grade level, 48% gained over two grade levels, and 24% gained three grade levels on the TABE Math test. In addition, 80% gained over one grade level, 45% gained over two grade levels, and 45% gained over three grade levels on the TABE Language test.

Strengths: Comprehensive variables were measured.
Weaknesses: There was no comparison group. There were no details on methodology. The report failed to provide details on context. Except for tested learning gain, most data appeared to be self-reported.

Darling, S., & Hayes, A. (1996). *The power of family literacy*. Louisville, KY: National Center for Family Literacy.

Purpose: Beginning with the 1991-92 school year and continuing through 1994-95, NCFL implemented the Toyota Families for Learning Program and the Knight Family Education Program at 80 sites in 19 cities. This report summarized the research findings during those funding years as well as the outcomes of follow-up studies on families from one to six years after enrollment.

Variables: The outcome variables measured for the adults were retention rates, language and math gains, GED attainment, self-esteem, confidence in parenting, and amount of home literacy activities. The follow-up studies addressed obtaining and keeping employment, continued enrollment in education or training programs, reduction of dependence on public assistance, and parental involvement in their children's school.

Population: Almost 2,500 families participated during the four funding years. It was not clear how many adults participated. The follow-up studies involved 200 adults and 315 children who had attended the original Kenan model sites, the Hawaii Pilot Family Literacy program sites, or those sponsored by NCFL in Florida, New York, and Arizona. Adults in the NCFL programs received a median of 140 hours of instruction over a 24-week period.

Design: The data were primarily descriptive. A systematic research design was not evident.

Data Collection: Follow-up data were collected by telephone or face-to-face interviews. Other procedures were not described.

Instrumentation: Academic achievement instrumentation included CASAS and the TABE. The Rosenberg Self-Esteem Questionnaire measured general self-esteem. It was not clear how the other variables were measured.

Findings: In the ongoing studies, adults at the lowest levels of literacy at enrollment gained an average of 4.4 CASAS scale points. Twenty-eight percent made gains of one or more CASAS levels. The average gain on the TABE was 1.3 grade levels. Descriptive data also indicated that parenting skills, parent-child activities, and adult self-esteem improved.

Of the 200 parents included in the follow-up studies, 51% attained the GED, 43% were employed (compared with 14% before enrollment), 13% enrolled in higher education or training programs, 11% were continuing with ABE, and 23% of those on public assistance at enrollment had ceased to collect benefits.

Strengths: Comprehensive variables were measured. Much of the data were compared to literacy programs that focused solely on adults.

Weaknesses: There was no control group. The report failed to provide details on context or methodology. Other than tested learning gain, most data appeared to be self-reported.

Educon Diversified, Inc. (1995). *Investing in Minnesota's future: An analysis of economic, societal, and personal impacts of literacy and adult basic education programs in Minnesota.* Belle Plain, MN: Author.

Purpose: The purpose of this report was to inform the governor, the Minnesota legislature, and state taxpayers on the outcomes of adult basic education.

Variables: The variables primarily concerned data on economic impact.

Population: This report wove an argument for impact using data from a variety of sources. The Minnesota Department of Education supplied most of the statistics (presumably the same data reported to OVAE each year). The sample size varied with the statistic presented.

Design: This purely descriptive report used data from the state, the popular press, NALS, and other sources to make its case. Some anecdotal testimonials were included.

Data Collection: These procedures were not described.

Instrumentation: The instrumentation was not described.

Findings: Between 1960 and 1994, 147,000 persons received their GED. Most of the data were used to demonstrate the need for adult literacy education rather than to portray outcomes.

Strengths: The report presented a wealth of useful descriptive information.

Weaknesses: Although the report claimed to be an outcome assessment, it was actually more of a public relations document. No data on outcomes were actually collected; all sources were secondary. Most of the statistical data were presented to argue need rather than to demonstrate impact. The methods and procedures used to collect the data were not described.

Fingeret, H., & Danin, S. (1991). *They really put a hurtin' on my brain: Learning in Literacy Volunteers of New York City.* Durham, NC: Literacy South. (ERIC Document Reproduction Service No. ED 332 026)

Purpose: This research study evaluated an educational program, Literacy Volunteers of New York City (LVNYC), where tutors provided small group instruction to adults with low literacy skills. The major question addressed was the impact of Literacy Volunteers of New York City on its students.

Variables: Change was examined in three areas: (a) literacy skills; (b) self-concept, attitudes, and beliefs related to literacy development; and (c) involvement in literacy tasks outside the program. A quantitative piece analyzed students' standardized test scores and writing samples. Writing variables included sub-skills such as the number of words used in general and per sentence, content organization, vocabulary, sentence and paragraph structure, and mechanics.

Population: Twenty tutors and 16 LVNYC staff members were interviewed. Sixty-five students were interviewed in focus groups and another 37 by telephone. Ten of the focus group students were interviewed individually several times as case studies. The reading scores of 114 students and 66 writing samples from 33 students were analyzed.

Design: This was a qualitative case study, although test data were analyzed at 50-hour intervals.

Data Collection: Fieldwork was conducted and data collected over seven months in 1990. Open-ended focus group interviews, individual interviews, and observations were the primary methods used to collect data. Coding the qualitative data involved using a computer text- analysis program specifically developed for the project. The data to analyze students' writing samples were collected at various points. The first writing sample was collected during the first month of participation. Standardized reading test data were collected at 50-hour intervals.

Instrumentation: A consultant generated a rubric modeled on various writing assessment tools to analyze the writing samples. A reading vocabulary inventory was given as a locator when students enrolled in LVNYC. Those who scored below 3.0 were administered the Test of Adult Basic Education (TABE). Those who scored below 3.0 were given the Adult Basic Learning Examination (ABLE).

Findings: Writing Samples: The relationship between cumulative length of time in the program and change in writing scores was examined. Thirty-three paired writing samples representing three groups were analyzed. The mean length of time in the program for each group was 5.38 months, 9.43 months, and 16.67 months, respectively. The difference score average for each group was 9.23, 6.75, and 7.5, respectively. Although the researchers concluded that rapid gains in writing scores occurred in the initial stages of instruction and then reached a plateau, they were not sure what these findings meant. They hypothesized that slower writing gains for students over time may signify changes in content from personal stories to varied subject matter. No claims were made about the statistical significance of these findings.

Reading Gains: The researchers hypothesized that the more instructional hours a student received, the greater the gain in reading grade level. Average grade-level score at entry for 114 students was 1.518. Average posttest score was 2.4. Average grade-level gain was .9 years. Average length of time in the program was 229 hours. The gains were not found to be statistically significant. The researchers noted that "the results of the Analysis of Covariance (ANCOVA) reveal no statistically significant effects of differences in grade level gains between the pre and posttest scores based on length of time in the programs, grade level at entry into the program, or the relationship between the length of time in the program and entry grade level score."

To assess qualitative impact of the program on LVNYC's students, the researchers presented an impact framework that viewed literacy as "practices" (i.e., something that one participates in doing rather than being a characteristic of the person). They concluded that literacy is "situational" and distinguished between private and public literacy practices. Public and private literacy practices occurred inside and outside LVNYC.

LVNYC students assessed their reading and writing skill development by offering examples of what they could do during their tutoring sessions. They also assessed their progress by noting their progression through books of increasing difficulty, and gauging how their reading speed and comprehension had improved. The positive impact of LVNYC on some of its students was seen in the high level of involvement they had in extracurricular activities offered by the program, including participation in tutor and student orientation and training, state and national conferences, a publishing program, and student committees.

The impact of new "private" literacy practices outside the program was most evident in activities that had a high level of predictability (e.g., paying bills).

Interpersonal relationships also changed, such as students doing tasks independently or involving new people to support their reading and writing development. Four environments--jobs, banks, public transportation, and grocery stores--were consistently mentioned by students as places where they engaged in public literacy practices in new ways. The researchers also found that students' beliefs and attitudes toward reading and writing tasks changed as did their self-image as learners.

Strengths: A rigorous design included qualitative and quantitative data. The framework generated by the qualitative data--that literacy is practiced situationally--is important to the field.

Weaknesses: The small sample size for some of the variables examined make it difficult to conclude that the results were representative of the program as a whole. There was no control group.

Hayes, A. (1993). *Hawaii Family Literacy Pilot Project: Summary report 1990-93 and interim follow-up.* Louisville, KY: National Center for Family Literacy.

Purpose: In 1989, three sites in Hawaii adopted and adapted the Kenan Family Literacy Program model. The report evaluated the project after a three-year period. This abstract will describe only the impact upon adults.

Variables: Measurement of academic, social, and personal characteristics of adults was planned, but very little pre- or posttest data were obtained.

Population: One hundred adults initially enrolled in one of the three sites. Seventy-three remained until the end of the first year.

Design: The design was descriptive.

Data Collection: Two sites implemented the Hawaii Competency-Based High School Program and the third a GED-enrichment program. Little description of collection procedures was included.

Findings: Thirty four of the 41 parents who did not have a diploma at enrollment received GED certification. Of the adults who had pre- and posttest achievement data (the numbers were not stated), all improved approximately one grade level during the time enrolled. At one site, 29 or 30 students attended a special

summer/transition program at a local community college. There were few changes in employment.

Strengths: There were no real strengths.

Weaknesses: There was no control or comparison group. There were few details on methodology. The data on adults were self-reported.

Hudson, P., & Gretes, J. (1994). *New Horizons: A national workplace literacy program. Final report and external evaluation impact study.* Conway, SC: Horry-Georgetown Technical College.

Purpose: New Horizons was a workplace literacy project in which employees of Georgetown Steel Corporation attended classes provided by Horry-Georgetown Technical College. This project had eight objectives. Among them were to (a) conduct a comprehensive needs assessment of employees and develop competencies bases on those needs, (b) design course curriculum around those competencies, and (c) develop an individual education plan (IEP) for each employee who participated in workplace literacy classes.

Variables: The variables were reading, writing, and math gains; self-confidence as readers, writers, and in mathematics; self-esteem; and on-the-job problem solving, time management, and productivity.

Population: Fifty-three percent ($N = 454$) of Georgetown Steel employees participated in at least one of the classes. Their mean age was 40 years old. Most participants were male. Two hundred and ninety-four employees were White and 159 were Black. The majority of participants had been employed by the company for more than six years. However, only 57 participants had pre- and posttests in math, 61 in reading, and 19 in writing. It is not clear how many completed the surveys to gather data for the other variables.

Design: There was a pre-post comparison design.

Data Collection: Besides pre- and posttesting, interviews were conducted with participants and their supervisors. Researchers also analyzed IEPs. Supervisors were interviewed each quarter using information from the survey.

Instrumentation: The Bader Reading Inventory was used to place those who read above 4.0 in reading and writing classes. Those who scored lower were placed in

an emergent reading class. Customized tests were used to measure reading, writing, and math gains.

A project-developed survey was used to gather information from supervisors. It consisted of open-ended questions. A 12-item participant survey was also created, with a five-point scale ranging from "strongly agree" to "strongly disagree."

Findings: Participants had a 39% increase in math, a 22% increase in reading, and a 15% increase in writing. In addition, 91% of the participants "strongly agreed" or "agreed" that their communication skills had increased, 77% believed the program had increased their productivity, and 93% felt their self-esteem had improved.

Strengths: Many variables were measured.

Weaknesses: The sample size seemed small, although the true sample size was not made clear. There was no control group. Much of the data were self-reported. Data collection methods were not well described.

Koen, S. & Musumeci, M. (1984). *BES Adult Literacy Project.* Norwalk, CT: MATRICES Consulting Group.

Purpose: The BES Adult Literacy Project was the classroom instruction component of Bronx Educational Services. This research study was its submission to the Joint Dissemination Review Panel and described student outcome data from 1981 to 1984.

Variables: The outcome variables were reading gains and attrition rates.

Population: There were seven cohorts of students. All adults were in the nonreader or beginner reader category. Ninety students had matched pre- and posttest scores, which represented 52% of the entire BES enrollment during the three years of program evaluation. The majority of the students (81%) were Black; 16% were Hispanic. Fifty-nine percent were males. Three quarters of the students were employed; the majority earned less than $12,000 a year.

Design: A quasi-experimental research design, the Cohort Design, was used to assess program impact. It combined longitudinal and cross-sectional approaches into one research plan. *T* tests were computed for the entire student sample and for individual cohorts. An independent *t* test was also used to determine the

difference in reading achievement between students exposed to the BES program and those who were not.

Data Collection: Students were tested at the beginning and the end of each instructional cycle (100 hours). TABE tests were administered by BES staff. The project evaluator spot-checked scoring for accuracy.

Instrumentation: The TABE (levels E and M) was used to measure reading gains during the comparison year. TABE raw scores were converted to scaled scores and grade equivalent scores. Scores were transferred to data rosters provided to external evaluators.

Findings: Reading gains on the TABE were statistically significant for all seven cohorts. Cross-sectional comparisons demonstrated on all TABE reading scales that BES students outperformed comparable groups of students not exposed to the program.

Strengths: The study used a quasi-experimental design which included a control group. The design was rigorous. Reading gains were measured over time.

Weaknesses: Very few variables were measured. The uniqueness of the program makes it difficult to duplicate.

Lafayette School Corporation. (1991). *Lafayette Adult Reading Academy (LARA) and St. Elizabeth Hospital Employee Literacy Program. Final program report.* Lafayette, IN: Author & St. Elizabeth Hospital.

Purpose: This literacy project sought to increase the usefulness of health-care materials by reducing their volume and to improve the basic skills of hospital employees.

Variables: Outcome variables measured were literacy, verbal communication, and problem solving around particular work tasks or strands, such as terminal cleaning, safety instruction, and disaster codes.

Population: Two hundred and thirty-six participants, primarily white females employed at St. Elizabeth Hospital, participated in the project. The majority had been employed at the hospital for five years or less. They were drawn from various departments.

Design: The report was primarily descriptive. This was not a research study, but a literacy project in which nine training strands were developed.

Data Collection: Employee reactions were elicited through surveys, interviews, and testimonials. Achievement gains were measured by pre- and posttests of job-specific skills. Change in participant behavior on the job was measured by observation, checklists, and rating scales. After a comprehensive needs analysis, new types of health-care forms were created to measure progress. It was not clear who developed them or how.

Instrumentation: All instruments were generated by the project.

Findings: All participants tested higher on targeted skills.

Strengths: Variables measured were job specific. Useful forms were developed for the hospital.

Weaknesses: There was no comparison group. Data were exclusively self-reported. It was not clear how variables were measured. Instrumentation was developed entirely by the project and not well described.

Lashof, J. (1992). *BEST: A learner-centered workplace literacy partnership of the Vermont Institute for Reliance and General Electric Aircraft Engines.* Rutland, VT: Vermont Institute for Self-Reliance.

Purpose: From April 1990 to March 1992, the Vermont Institute for Self-Reliance conducted context-based literacy instruction for employees of two General Electric Aircraft Engine plants and two Burlington Electric Department plants. Responsive Text (RT), a computer-augmented reading environment, was one of the primary modes of instruction. One of the project's goals was to evaluate the extent to which RT provided an effective tool for developing employees' literacy skills. The project also sought to increase the literacy levels of employees and evaluate the extent to which these increases improved their work performance.

Variables: Instructors' perceptions of improvement in employees' literacy skills were measured. The variables included comprehension of expository, work, and narrative materials; decoding ability; vocabulary knowledge; interest in reading and writing; participation in group activities; ability to use and interest in RT; and writing ability.

Supervisors' perceptions of improvement in employees' literacy skills were measured. Variables included changes in the employee's ability to read and write job-related materials, and the frequency he/she reads and writes at work. Participants' perceptions of these categories were also measured.

Participants' perceptions of changes in their work performance were measured. The variables included leadership in the workplace, initiative in the workplace, knowledge of her/his job, self-confidence in the workplace, absenteeism, quality of work, and level of responsibility. Supervisors' perceptions of these categories were measured.

Population: It is not clear how many workers actually participated, because the numbers reported are a duplicated count. In other words, participants were counted more than once.

Design: This was an evaluative report. There were pre-post comparison components and a portfolio assessment.

Data Collection: Qualitative and quantitative data were collected. Multiple sources of data were used to triangulate consistent patterns of changes.

Instrumentation: Portfolio assessment procedures were used to measure outcomes. The instruments included pre- and post-interview forms, reading assessments, writing samples, a scale of teachers' perceptions of improvement, a participant self-evaluation form, a supervisor's response form, and a responsive text evaluation form. All instruments were developed by the project. They drew on the holistic assessment approach developed by Susan Lytle and incorporated a portion of the California Adult Learner's Progress Evaluation Program.

Findings: Participants increased in each of the four measures of literacy performance. In all but two cases, the mean differences were statistically significant. Instructors and supervisors perceived participants as making gains in the four areas of literacy performance as did the participants themselves. Participants and supervisors also perceived major changes in work performance.

Strengths: Assessment instruments were very comprehensive. Multiple sources of data were used to triangulate consistent patterns of changes.

Weaknesses: Much of the data were perceptions reported by instructors and supervisors. There was no control group. The number of employees served is reported as a duplicated count. It is, therefore, not clear what the actual n is.

Lipiec, J. (1993). *Verifying applied literacy skills (VALS) in ABE Programs.* Schnecksville, PA: Lehigh County Community College.

Purpose: This study compared the effectiveness of a traditional GED curriculum with one based on applied literacy skills. It also sought to determine the validity of the Educational Testing Service's Tests of Applied Literacy Skills (TALS) as a predictor for GED performance.

Variables: Learner outcome variables were GED attainment and performance, reading and math achievement, retention, and meeting stated goals.

Population: Originally 70 students enrolled in one of the two classes, but only 14 students from each class finished the program and had complete pre- and posttest data. Thirty-five students were reached by telephone and interviewed three months after completing the program.

Design: This study had an experimental design with a control group. Pre- and posttests were compared using a *t* test on mean scores.

Instrumentation: The TALS and ABLE were used for achievement data. Results of GED practice tests were also analyzed. A seven-question follow-up survey was used.

Data Collection: Pre- and posttests were administered by project staff at the beginning and conclusion of the classes. GED practice tests were administered during class. Follow-up interviews were conducted with learners three months after they had completed the program. Retention information was collected by attendance sheets signed by students at each session. The research staff of the college conducted the statistical analyses.

Findings: Approximately 40% of the students from each group completed the program. This result did not support the original hypothesis regarding retention. In fact, the control group students averaged 1.5 more sessions than the experimental group. The average age of those who completed the GED program was 39 years, compared to 27 years for those who dropped out.

Both groups showed significant gains on the TALS and ABLE. However, the experimental group gain was more significant in traditional basic skills while the control group's gain was more significant in applied basic skills. Again, this result countered one of the original hypothesis of the study. When the data from the two

groups were compared, no significant score differences appeared on the ABLE, TALS, or GED practice tests.

The follow-up interviews revealed that the amount of progress made by experimental and control groups in meeting personal goals was essentially the same.

Strengths: There was a control group. Appropriate variables were measured. Follow up was conducted. The researchers asked questions which are important to the field. Local data were compared to national data.

Weaknesses: There were small sample sizes in each group and substantial attrition. The data collection methods could have been better described.

Lipscomb, J., & Cronin, C. (1994). *Tools for the 21st century. Southwest Alabama Cooperative Literacy Project. Final evaluation.* Mobile, AL: University of South Alabama.

Purpose: Seven manufacturing plants and the University of South Alabama developed a workplace literacy program, the Southwest Alabama Cooperative Literacy Project. The primary objective was to increase productivity by increasing the literacy skills of employees. The project lasted 18 months in 1993-94.

Variables: Reading and math gains were the two variables studied.

Population: Twenty-six employees participated in one or more sessions of reading classes and 35 in one or more of the math classes. The majority were males between the ages of 35 and 60. They held diverse positions at their manufacturing plants. All scored below seventh grade on the ABLE.

Design: Data were primarily descriptive. There was a pre-post component.

Data Collection: Data collection methods were not adequately described.

Instrumentation: The ABLE was used to measure reading and math achievement.

Findings: There were 20 pre- and posttests. The average gain was 4.2 points on the ABLE, Form C.

Strengths: There were no strengths.

Weaknesses: Sample size was small. It lacked a control group. Data were primarily anecdotal. No correlation was made between literacy gains and job performance. This was not a formal study.

Mikulecky, L., & Lloyd, P. (1993). *The impact of workplace literacy programs: A new model for evaluating the impact of workplace literacy programs.* Bloomington, IN: Indiana University, School of Education.

Purpose: Because many evaluations of workplace literacy programs have been superficial, NCAL funded a project in 1990 to develop and pilot a model for evaluating the impact of these programs. This study produced data on the impact of programs at two sites. An ancillary goal was to refine the model for use at other sites.

Population: Participants were employees enrolled in workplace literacy programs at two companies with very distinct work sites. Each company had education programs which were recognized as effective by state and federal agencies.

Delco Chassis, Rochester, NY

Delco Chassis was a unionized electrical motor manufacturing plant with over 3,600 employees. Education programs were operated jointly by union and management with support from state and regional agencies. All learners in this study were enrolled in three different types of programs. (a) The technical preparation class had 14 participants. This class was a six-week, full-time course designed to prepare them for further training. A control group of 12-15 employees had enrolled but not yet begun the class. (b) The GED preparation class had 15 participants. No control group was described. (c) The ESL class had 15 participants. A control sample contained five.

Cumberland Hardwoods, Sparta, TN

Cumberland Hardwoods was a nonunion rural plant. Because the company had a successful education program for several years, many of the employees had already passed through the available training courses prior to the study. Consequently, the samples at this site were quite small. For example, the GED course had so few students that insufficient data were obtained. Furthermore, no control groups could be formed. The population sample studied ($N = 21$) were employees taking part in a course, Communication and Collaboration, designed to help them work cooperatively as self-directed teams. Participants were members of two such teams.

Variables: Learner literacy variables included changes in beliefs (e.g., self esteem); changes in practices (e.g., reading and writing at home and work); changes in reported reading process and reading comprehension; and changes in plans (e.g., educational). Other measures were employer objectives such as employee attendance and ratings of supervisors. The researchers attempted to measure some family literacy variables, but the numbers were too small for statistical analysis.

Design: Originally this study planned a "complete" experimental design, but small sample sizes precluded that possibility. As a result, some of the data were analyzed using statistical comparisons of quantitative information. Other quantitative, as well as some qualitative, data were analyzed by categories that emerged from interviews and open-ended questions.

Data Collection: Interview, test, and classroom questionnaire data were collected before and after each course or at appropriate intervals during the class semester. Interviews were conducted by the researcher on a one-to-one basis. The classroom teachers administered the questionnaire and cloze test during the class period. Research personnel and on-site coordinators conducted class observations. Notations of class activities were documented on a timed basis.

Instrumentation: The researchers used a combination of approaches to develop instruments, including literature reviews, surveys of indices of productivity at work, and discussions with plant supervisors to develop anchored rating scales. Susan Lytle's conceptual framework for changes in adult literacy was used to develop interview and questionnaire items. These items were designed to reflect local use. Interview protocol forms, questionnaires, cloze tests, and classroom observations sheets were developed. Learners' reading abilities and literacy practices at work and outside were measured by a questionnaire that used Likert scales, fill-in-the-blank items, and anchored rating scales. Cloze tests were used to gauge workplace reading comprehension. The family literacy interview protocol consisted of open-ended questions. An ESL competency checklist was also devised. Supervisor productivity rating forms were sometimes left with the supervisors and at other times completed with a researcher.

Findings: Major results on the impact of employee participation in workplace literacy programs, excluding findings from the ESL class, are summarized below. Changes in variables were judged statistically significant when compared to the control group.

Changes in beliefs: The technical preparation group showed a statistically significant improvement from pre- to post-interview when asked, "How literate do you consider yourself to be?" Self-rating and holistic scores were statistically significant at the $p < .02$ and $p <. 01$ levels. The written questionnaire also contained a question about literacy beliefs. The latter data did not depict significant results, suggesting an advantage of the interview technique over the questionnaire method. Participants did not significantly change their views about what constitutes a literate person.

Changes in practices: The Cumberland samples showed a significant gain in the task of "asking questions at work." Reading and writing practices away from work were significant for the technical preparation group. There was also a significant gain in the range of reading for GED students.

Except for the technical preparation group (because it was a full-time class and participants did not work while attending), all groups showed pre-post gains in work-related reading and writing. Participant responses were measured by a count of items measured and holistically--the frequency, breadth, and difficulty of reading. However, learner self-ratings showed very little gains. Nonetheless, they showed significant increases ($p < .05$) on two items, talking in meetings and having one's ideas discussed in meetings. The Cumberland Communication and Collaboration class also showed gains in working cooperatively with others. Changes in literacy activities away from work were also measured. The technical preparation class showed statistically significant differences and the GED class showed gains. The GED class also showed a significantly wider range of reading.

Changes in process and ability: Changes in reading process and reading comprehension were measured by interview questions and cloze tests constructed from plant reading materials. The Delco technical preparation class made statistically significant gains on the cloze test. Others did not, perhaps because the reading passages were too difficult. Significant gains were demonstrated on some of the interview items.

When participants were asked to read a passage and describe what processes they used to read it, the posttest answers were deemed statistically significant for the Delco GED groups ($p < .005$). Their answers covered reading strategies (e.g., skimming) and topics of interest (e.g., products manufactured by competitors).

Changes in plans: When asked about their plans for the future in one, five, and ten years and to relate reading to those plans, the technical preparation students

showed significant improvements for one- and five-year plans ($p < .02$ and $p <$. 05).

The other items measured were either not outcome variables or could not be accurately measured due to small numbers. Supervisor ratings at the Cumberland plant showed statistically significant gains.

Strengths: Some population samples had control groups. The study generated quantitative and qualitative data. The design and measurement instruments were solid. The design included various modes to gather data. Comprehensive variables were measured in several ways. The study evaluated various ways to collect data from workplace literacy programs.

Weaknesses: Some of the results were self-reported. Not all population samples had control groups. The sample sizes were small. Only data from two workplace literacy programs were included. It is questionable whether the Cumberland site should have been used at all, given that most employees had already passed through the program. It is difficult to understand how data gathered from just these two sites would effectively help develop and refine a research model for use at other sites.

Mott Community College. (1993). *Workplace Literacy Project. Computer aided instruction in basic workplace skills, May 1, 1991-October 31, 1992. Performance report. Executive summary.* Flint, MI: Author. (ERIC Document Reproduction Service No. ED 378 308)

Purpose: The Mott Community College (MCC) Workplace Literacy Project was designed to provide basic workplace skills to employees from Lapeer and Genesee Counties. Individualized training plans were developed for each employee. They were then placed in classes customized to the needs of the workplace and individualized to their assessed skills. The classes offered were basic mathematics, beginning algebra, intermediate algebra, college algebra, analytical geometry/calculus I, basic sentence skills, basic writing, English composition, reading improvement, and reading-study skills development.

Variables: Variables measured were reading, writing, and math for work-related activities, critical-thinking and problem-solving skills in workplace situations, and interpersonal and communication skills in workplace interactions.

Population: Five hundred and sixty-six employees from 20 companies were identified for participation. It was not clear how many of these employees actually

enrolled in classes or how many completed classes. Furthermore, many classes had duplicate counts. Thirty-nine percent were between the ages of 20 and 30; 35% were between 21 and 40; 17% were between 41 and 50; and 7% were over 51 years of age. Sixty-four percent were males. Only 6% had not received a GED or high school diploma. Eighty-six percent were White, 9% Black, and 3% were Hispanic or Native American.

Design: The study had a pre-post design. Training was formatively evaluated at the midpoint of each training sequence and summatively evaluated at the end of each training sequence. The partnerships between MCC and the 20 work sites had a substantial variability of participation. For example, two partners had only one employee in the program, while another had 86. The average participation per partner was 28.3.

Data Collection: Once employees were identified, they completed a battery of assessment tests. Supervisors were asked to fill out a five-point scale survey to rate employees.

Instrumentation: Instruments used were MCC's placement examination, the TABE, and the Myers-Briggs Personality Test. Only 214 participants were given placement tests.

Findings: Narrative descriptions of outcome data were almost nonexistent, although statistical tables were presented. *T* tests for paired samples were provided. Performance in each academic area improved significantly, with math showing the greatest difference and vocabulary and comprehension showing the least.

Supervisor ratings indicated that all partners considered the goal of helping employees advance in their careers at least moderately well fulfilled. Most also felt it increased productivity. Supervisors representing 70% of participants noted that 26.4% had extreme improvement in their self-esteem, 36% had extreme improvement in worker moral, and 27.8% had extreme improvement in attitude toward continuing their education.

Strengths: There were no real strengths.

Weaknesses: Very few of the participants had real outcome data. There was substantial duplicated counting of participants. The data generated were poorly described. Some of the data reported were subjective views of supervisors. It was

not clear what some of the placement instruments were measuring. There was substantial variability of employee participation in the 20 companies.

National Center for Family Literacy. (1992) *Dissemination process submission.* Louisville, KY: Author.

Purpose: This submission was a proposal for a U.S. DOE dissemination grant which included some evaluative data on family literacy programs using the Kenan model. Adult literacy education was a required component of all Kenan model programs.

Variables: The National Center for Family Literacy (NCFL) had a comprehensive evaluation plan which included outcome measures for children as well as adults. The evaluation included tested learning gain, public assistance, employment, and further education.

Population: The study population varied according to the program site. All subjects were engaged in adult literacy education. The Kenan Family Literacy Model Programs had seven sites with 122 students; sites in Hawaii had 53 students; a site in Salem, Oregon had 18 students; and one in Mesa, Arizona had 50.

Design: Except for tested learning gain, most of the data were descriptive. There was a pre-post follow up, but the time between baseline and follow up varied by program. No control or comparison group was used.

Data Collection: Data collection procedures were not explained in detail. The length of time between baseline and follow up was an average of 22 weeks of attendance at the Kenan model programs, two years at the Hawaiian sites, and one year at Salem, Oregon. The length of time was not reported for the Mesa, Arizona site.

Instrumentation: An intake survey was used. Follow up and tested learning gain were measured by the TABE or CASAS.

Findings: Kenan Family Literacy Model Programs: Grade-level gains were reported for reading, mathematics, and language. In reading, 41% gained less than one year, 30% gained one year, and 29% gained two to three years. In math, 20% gained less than one year, 25% gained one to two years, 24% gained two to three years, and 24% gained more than three years. In language, 20% gained less than

one year, 25% gained between one and two years, 10% gained two to three years, and 45% gained more than 3 years.

Fourteen learners passed the GED; 41% were in some form of higher or continuing education; 66% were enrolled in educational programs, had definite plans for further education, or were employed; and 35% were employed (versus less than 10% at enrollment). In addition, 41% were not receiving public assistance, at enrollment 34% were not.

Hawaiian sites: At the Hawaiian Competency-Based High School Program students could take either the GED or earn a school district diploma. Of the 29 students enrolled in the first two years who did not have a diploma, all but four received high school certification. At one site, all adults (n = 22) who completed the year enrolled in summer programs at the community college.

Salem, Oregon: Seven of the 18 passed the GED. The average CASAS gain in reading was 13.5 scale points and the average CASAS gain in math was 16.5 scale points. Five students obtained a driver's license, 13 registered to vote for the first time, four enrolled in regular programs at the community college, and four entered work for the first time.

Mesa, Arizona: Of the 50 adults in the program, seven entered work for the first time, eight continued in community college ABE after their children entered kindergarten, six obtained their GED, and 20 remained in the program.

Strengths: Comprehensive variables were measured.

Weaknesses: The report did not mention details on methodology or context. Most data appeared to be self-reported. There was no control group.

New York City Board of Education. (1985) *Adult basic education final report 1984-85. OEA evaluation report.* Brooklyn, NY: Author. (ERIC Document Reproduction Service No. ED 278 793)

Purpose: The Adult Basic Education/High School Equivalency (ABE/HSE) Services Program of the Board of Education's Office of Adult and Continuing Education provided services to adults at over 300 sites. Its primary goal was to help program participants attain a higher level of literacy and enroll in other programs to further their education. This report compared variables measured in 1983-84 and 1984-85.

Variables: Variables studied were reading and math gains for basic education (BE) students, and English language oral proficiency for ESOL students. Changes in course levels (e.g., from BE1 To BE2) and changes in student employment patterns were measured for both groups.

Population: The sample of students consisted of those who enrolled in both the 1983-84 and 1984-85 program years. The sample of 6,355 students was 33% of the total enrolled during 1983-84. Course-level advancement data were available for 1,302 BE students. Math scores were available for only 345 BE students and reading scores for 1,153. HSE program math scores were available for 109 students and reading scores for 299. Employment status data were available for 5,466 students.

Design: Evaluators conducted secondary analyses on data compiled from program reports. A number of students and teachers were interviewed to gather qualitative data.

Data Collection: Evaluators collected achievement test data from program files and reports.

Instrumentation: The JOHN test was used to measure ESL oral proficiency. The TABE measured reading and math gains.

Findings: Of the 406 BE students who entered at level one in 1983-84, 42% progressed one level, 4% two levels, and 1% three levels. Of the 439 BE students who entered at Level Two in 1983-84, 37% progressed one level, 43% two levels, and 16% three levels. The average grade equivalent score in math for BE students was 5.4 in 1983-84 and 5.6 in 1984-85. The difference in students' grade-equivalent math scores was not educationally meaningful. The average grade-equivalent score in reading for BE students was 4.8 in 1983-84 and 6.0 in 1984-85. The comparison in students' grade-equivalent math scores showed a moderate improvement in test scores. HSE program scores showed decline from one year to the next. In 1983-84 the average math score was 6.7, in 1984-85 it was 5.9. Average reading scores dropped from 8.3 to 7.7.

Thirteen percent of the 2,518 students who were unemployed and available for work in 1983-84 were employed in 1984-85. Of the 1,157 students who had been unemployed and unavailable for work, 9% became employed by the 1984-85 school year.

Strengths: The sample was large and a huge amount of data was analyzed.

Weaknesses: The attrition rate was high. Very few variables were measured. Much of the data were incomplete.

Orangeburg-Calhoun Technical College. (1995). *VISIONS for Greater Employment Opportunities. Final report.* Orangeburg, SC: Author. (ERIC Document Reproduction Service No. ED 379 511)

Purpose: The VISIONS project was a workplace literacy program conducted in partnership with Orangeburg-Calhoun Technical College. Participants were drawn from three companies. The project had five objectives, including the design and development of job-specific literacy audits and curriculum. Another objective was to provide instruction to 250 employees which would result in new or continued employment, career advancement, or increased productivity. This project also sought to increase the basic skills competencies of 90% of the participants.

Variables: Outcome variables were competencies in speaking, listening, reasoning, and solving problems.

Population: Two hundred and ninety-four adults participated in the workplace classes. More than 90% were between the ages of 26 and 65; 37% were White, 61% Black, and 66% were female. Sixty-two percent of the participants were married and 85% had attained their high school diploma or GED before taking part in the classes. All were employed by the Regional Medical Center of Orangeburg and Calhoun Counties; United Technologies, an automobile assembly plant; or Holman, a cement and mining operation. The latter two were located in very rural areas.

Design: The design was pre-post comparison. Upon completion of a task analysis, a competency- based curriculum was developed for each work site.

Data Collection: Data were collected by project staff.

Instrumentation: No standardized tests were used. All instruments that measured gains were competency-based and developed by project staff (primarily the people teaching the courses). All other documentation to collect data were created by project staff. The forms to measure participant outcomes included supervisor pre-post employee ratings and student interview or student evaluation of instruction.

Findings: Ninety-nine percent of the participants attained a gain. There was a 57% average gain in better job attitude and a 58% gain in job knowledge. As reported

by supervisors, participants showed a 50% gain in productivity. Self-assessment surveys indicated that instruction helped workers perform their jobs better, with ratings increasing from 72% in the first cycle to 91% in the fourth cycle.

Strengths: Useful materials and courses were developed for the three participating companies.

Weaknesses: Some participants were double counted. The lack of standardized testing makes it difficult to generalize this approach and its results. Teachers administered the pre- and posttests that they had developed. There was no control group.

Pacific Training and Technical Assistance Corp. (1974). *Evaluation of the community based Right to Read program.* Berkeley CA: Author.

Purpose: This study was a U.S. DOE-sponsored evaluation of the Right to Read program. The evaluation was quite comprehensive, looking at program effects as well as learner outcomes. The evaluation focused on 13 programs serving in-school youth and 11 programs serving out-of- school adults. Data on the adult projects are reported here.

Variables: The variables studied were tested learning gains, students characteristics, and program characteristics.

Population: The study population consisted of Right to Read participants in 11 randomly selected sites. The cumulative enrollment was 1,198 students. Six hundred and forty participants were continuees and 322 received pre- and posttests (a completion rate of .50).

Design: The design was pre-post comparison. Participants were administered reading tests and gains were measured against student, teacher, and program characteristics.

Data Collection: Pretests were administered in November and December 1973. Project staff monitored the testing. Posttests were administered in May 1974. Student and staff data were collected bimonthly until May 1974.

Instrumentation: The Reading Everyday Activities in Life (REAL) test was used to measure learning gain. Learners' attitudes toward reading were measured with an attitude scale developed by the researchers. Student data were collected through intake and termination forms. Other instruments were attendance data

forms, a staff questionnaire, an on-site observation guide, and a project director's interview guide.

Findings: Significant gains in reading occurred. Average gains were 6.15 in the four- to six- month period. There were no significant differences between programs using paid tutors and those using volunteer tutors. The termination rate was 30.9%. Those who could read in their native language gained more than those who could not. Nonnative speakers who were fluent in English did better than those who were not fluent. Those who perceived their participation to be volunteer did better than these who did not.

Strengths: The sample size was substantial. The design was well conceived and executed. Comprehensive variables were measured. It was a well-documented report.

Weaknesses: There was no control group.

Payne, B. (1989). *Project F.I.S.T.: Functional In-Service Training. Submission for program recertification.* Edison, NJ: Middlesex County College.

Purpose: This was the application for Joint Dissemination Review Panel recertification for Project F.I.S.T., a volunteer-based administrative and instructional delivery system aimed at meeting the needs of low level readers. Student and tutor outcomes were measured. Solely the latter is discussed in this abstract.

Variables: Student outcomes measured were reading achievement and change in reading behaviors.

Population: Fourteen (14) were from the home site and four from an adoption site in Maine (n=14). The replication group (second data set) consisted of five students from the home site and 48 from the Literacy Assistance Center (LAC) database.

Design: A single group pre-post design with replication was employed.

Data Collection: Data were collected by project staff. The standardized reading test was administered at entry level and at four-month intervals.

Instrumentation: The SORT and TABE were the standardized tests used. A questionnaire was also administered.

Findings: Students made significant progress on the SORT. They averaged eight months of improvement in four months. In addition, when compared to the data from LAC (of 110 students and 3.0-4.9 grade level), the average gain for F.I.S.T. students on the TABE was 1.1 after four months of instruction versus the same gain after 200 hours for the LAC sample.

Strengths: Results were compared with those of a nationally validated program and the LAC database.

Weaknesses: There was a low n. The sample of students was described in a confusing manner. Three different standardized reading tests were used.

Ramussen, C. (1992). *Workplace basic skills in the metal casting industry for world class process and technology.* Alexander City, AL: Central Alabama Community College.

Purpose: Between March 1991 and August 1992, Central Alabama Community College and Robinson Foundry, Inc. established a workplace basic skills project for the metal casting industry. This project sought to measure seven employee objectives and four industry objectives. The two institutions wanted to establish a correlation between literacy gains and productivity measures.

Variables: Employee outcome variables were literacy achievement, knowledge and performance of industrial process, and GED completion.

Population: Three hundred and three workers enrolled; 216 completed all 16 hours of instruction and had pre-post data.

Design: The design was descriptive with a pre-post component.

Data Collection: Exit surveys were administered during the second and third reporting periods. Data collection methods were not described.

Instrumentation: The TABE was used to measure general literacy. Instructors developed pre- and posttests to measure knowledge of industrial process and concepts of management. Performance of the industrial process was measured by surveys that the instructors generated based on a supervisor rating form developed by a workplace literacy consultant.

Findings: A correlation between literacy gains and productivity measures was not established. No one attained a GED. The TABE scores were difficult to interpret;

however, reported reading gains were two to three grade levels. Seventy to 85% of participants perceived the project to have helped them with reading, writing, computation, and problem solving; and 70% said it had helped job performance. Job attitude improved by 71% and job knowledge by 62%. Retention was 71%.

Strengths: There were no strengths.

Weaknesses: The treatment period, 16 hours, was short. The researchers did not provide samples or descriptions of instructor-developed tests. Much of the data were self-reported.

Scheier, E., & Senter, D. (1969). *Evaluation of Learning 100: An adult basic education project in Bedford-Stuyvesant, 1967-68.* Huntington, NY: Educational Development Laboratories, Inc.

Purpose: L-100 was a multimedia communications skills system developed by Educational Development Laboratories for use with undereducated adults and youth. This study sought to compare its effectiveness in an undereducated adult population from the inner city with a more traditional reading program.

Variables: Reading achievement and hours of instruction attended were measured.

Population: Forty-nine students enrolled in the two L-100 classes. A control group of 47 enrolled in two classes that used traditional reading curricula, such as SRA Kits and the Lippincott Reading for Meaning Series. Only 37 of the experimental group and 26 of the control group had pre-post data. Sixty percent of the students in the experimental group had completed 4-7 years of schooling, while 62% of the control group had completed 9-12 years of schooling. All the members of the experimental group were employed, as were 73% of the control group. Most of the students from both groups were women. Sixty-two percent of the experimental group were between 35 and 49 years of age; 65% of the control group were between 20 and 34 years of age.

Design: This study had an experimental design. The analysis of covariance statistical technique was used. Qualitative data were classified and summarized.

Data Collection: The Metropolitan Achievement Test (MAT) was administered after 10 hours of instruction, after 100 hours of instruction, and at 200 hours of instruction. Research staff administered questionnaires to teachers and interviewed the teachers.

Instrumentation: The MAT was used to measure reading achievement. Subjective data were collected by questionnaires completed by and interviews given to the teaching staff.

Findings: Twelve (24%) of the experimental group and 21 (44%) of the control group left the program without completing the prescribed 200 hours. No correlation was made between retention rates and method of instruction. The average hours of instruction for the experimental group was 157 and 170 hours for the control group. Again, no correlation was made between average hours of instruction and method of instruction. The experimental group scored significantly higher on the MAT than did the control group.

Strengths: There was a control group. There was a more than adequate treatment period. Statistical adjustments were made for pretest differences. Variables were correlated statistically.

Weaknesses: There were small sample sizes in each group. The experimental and control groups did not seem comparable in several areas. Few variables were measured. The reading instrument was not normed for adults.

Seaman, D., & Denyer, J. (1991). ***Evaluation of a workplace literacy program: A cooperative effort between Houston Lighting and Power Company and North Harris County College.*** **College Station, TX: Texas A&M University.**

Purpose: Between 1990 and 1991, Houston Lighting and Power Company, in conjunction with North Harris County College, developed a workplace literacy project to prepare the company's employees for the commercial driver's license (CDL) test.

Variables: Variables were reading achievement, passing the CDL test, and desire to further one's learning.

Population: Originally the project meant to serve 200 employees in the pilot and regular classes. This goal was not met due to lack of release time by the employer. The report did not make clear how many employees actually participated. The target pool was originally 1,200 employees, of which 1,190 were assessed by one of two instruments and 500 participated in a one-day class on "test-taking skills."

Design: The report was primarily descriptive with a pre-post component.

Data Collection: It was not clear who collected data or how it was collected.

Instrumentation: Instruments used were the CDL Basic Skills Assessment and the TABE.

Findings: Of those who enrolled in the regular class, 99% passed the CDL test.

Strengths: Independent evaluators assessed the project's pilot class and the main instructional program that followed. Evaluation was based on Steele's (1990) four-component model.

Weaknesses: There was no control or comparison group. The sample size was not clear. Data collection methods were not clearly described.

Sherron, R. (1986). *A longitudinal evaluation of adult basic education in Virginia: 1970-1985.* Richmond VA: Virginia State Department of Education.

Purpose: This research was actually a cohort study, although it was called a longitudinal evaluation. Similar instrumentation was used in 1970, 1978, and 1985, and the results were compared. Most of the data described program and teacher variables. Some data on student impact were presented.

Variables: For the three cohort years, these variables were compared: income, employment, reasons for nonemployment, residence moves, post-ABE training, attendance, and learning gain.

Population: There was a 10% random sample of students. The actual sample size was not given.
Design: The design was a descriptive cohort study with cohorts in 1970, 1978, and 1985.

Data Collection: The methods and procedures of survey administration were not described.

Instrumentation: The test used for tested leaning gain was not described. Other data were collected through survey.

Findings: Students' income increased over time as did students' family income. It was not reported whether the data were adjusted for inflation. Full-time employment decreased over time. Reasons for nonemployment remained stable over time. Over time, more students did not change their residence within a five-year period. More students expected to attend a college or university over time; preferences for other types of post-ABE training did not change. In 1970,

significant gains in both reading and math were achieved; in 1978, gains in reading were not significant, but gains in math were. In 1985, gains in reading were not significant, but gains in math were. Neither the test used nor the time interval between pre- and posttesting were described.

Strengths: There were time series data and comprehensive variables.

Weaknesses: Methods and procedures were not adequately explained. This was a cohort study, not a longitudinal study. Without a control group, gains over time can not be explained by participation in ABE.

Siefer, N., & Latkiewicz, J. (1992). *Third project evaluation report--summative for Salt Lake Community College.* Salt Lake City, UT: Salt Lake Community College. (ERIC Document Reproduction Service No. ED 355 373)

Purpose: Salt Lake Community College, the National Semiconductor Corporation, and Natter Manufacturing, Inc. collaborated in implementing a workplace literacy project. This project had eight objectives, including conducting a literacy audit, performing task analysis for selected jobs, designing and implementing curriculum, and evaluating and disseminating the results. It was originally designed to serve 225 employees.

Variables: Variables measured were impact on employees' workplace literacy levels, workplace technological skills, workplace communication skills, participation in team meetings, and job advancement.

Population: Three hundred and twenty-five employees from the National Semiconductor Corporation enrolled in Pre-Statistical Process Control (SPC), ESL, math, and technical reading and writing classes. Thirty-five employees from Natter Manufacturing attended classes in math, communication, and ESL. Most of them enrolled in the ESL class and many of them enrolled in more than one class.

Design: There was a pre-post design. The evaluation plan for this project generated soft and hard data.

Data Collection: Project staff collected the data. Procedures were not made clear.

Instrumentation: During the project it was difficult to pretest for the course objectives and project personnel did not want to rely on generic skill tests. Checklists, supervisor ratings (four- item scale), personal interviews, and

anecdotal summaries were used to collect data and assess the impact of the project.

Findings: Natter Manufacturing: Of the 35 enrolled in refresher math, 26% showed gain to the 80% mastery level. Of the 19 enrolled in the workplace communication class, 37% showed gain to the 80% mastery level. Five people (71% of the class) showed gain to the 80% mastery level in technical reading and writing.

National Semiconductor: Of the 137 who attended the refresher math course, 82% showed some gain, and 63% achieved mastery level. Of the 101 participants who took both pre- and posttests, 86% showed gain and 53% achieved mastery level.

Self-reported data indicated that some employees were reading the newspaper more frequently, were more involved with their children's homework, and had increased self-esteem.

Strengths: This evaluation study had no real strengths.

Weaknesses: Many classes met for so few hours that true impact could not be measured or attributed to participation in the classes. Learner count was duplicated in many cases.

Smith, M., & Dalheim, Z. (1990). Project READ. *A study of twenty reading disabled adults.* Pittsfield, MA: Pittsfield Public Schools. (ERIC Document Reproduction Service No. ED 328 726)

Purpose: Project READ's teaching objective was to improve the reading levels of adults diagnosed with learning disabilities. Its three research objectives were to (a) investigate which of three teaching approaches was most effective with this population, (b) study what is effective assessment, and (c) measure the impact of reading difficulty and subsequent remediation on an adult's self-esteem.

Variables: The outcome variables were reading gains, the impact of instruction on self-esteem, and changes in students' lives.

Population: Initially 25 students were selected for the project. Their ages ranged from 20 to 67 years. Eighty percent were men. Most were employed. Seventeen had school-aged children. All scored below fifth grade on a battery of tests. All had intelligence in the normal range and English was everyone's first language. Five dropped out before completing the program ($N = 20$).

Design: The project had pre- and posttesting over time and a case-study design.

Data Collection: Project READ took place and data were collected from 1986 to 1990. Data were collected at the beginning of the project and at its conclusion. However, it is not clear at exactly what other intervals collection occurred.

Instrumentation: The study used a variety of instruments. Standardized tests included the Wechsler Adult Intelligence Scale to measure intelligence and discrepancy between reading accuracy and oral comprehension. Subtests from the WAIS were used as auditory and visual memory measurements. The Wide Range Achievement Test was used to measure word recognition, spelling and writing, and the Woodcock Reading Battery to assess word attack skills. Silent reading was measured by the Stanford Diagnostic Reading Test or the TABE; oral reading was assessed by Gary Oral Paragraphs and Gilmore Oral Paragraphs. Self-esteem and other psychological variables were measured by the Depression Adjective Checklist, the Gordon Personal Profile Inventory, and the IPAT Anxiety Test. Project staff created intake and completion interview instruments. In-depth case studies were kept on many of the students.

Findings: Although the samples were small, this study produced many results because so many types of comparisons were made and reading strategies assessed. Consequently, there were too many outcomes to delineate in this abstract. The major findings are noted below.

Reading gains were measured by grade-level gain and the number of lessons required to attain it. The average grade-level gain for the CC group was one year and three months after 210 lessons; the RFS grade-level gain was three years and three months after 203 lessons. Compared to the average gain in public school, the CC group was 1.5 times the average and the RFS group 3.1 times the average. Oral and silent comprehension were a key area of difference between the CC and RFS groups. The CC group gained eight months while the RFS groups had a gain of four years. This was a rate gain of 4.6 times the average.

The RFS and EQ groups were compared for reading gains on untimed oral tests. The EQ group gained three years and six months after 184 lessons. The RFS groups gained three years and nine months after 216 lessons. When compared to public school averages, the EQ group was 4.0 times the average and the RFS group was 3.3 times the average. Again, the greatest differences were found in comprehension. The EQ groups had a rate gain of 5.1 versus 3.6 for RFS. In silent reading the two groups were almost identical with nearly a 4.0 gain for both.

The groups showed greater gains in comprehension than in phonetic and word structure decoding, even though the curriculum stressed these latter skills. The researchers concluded that students with learning disabilities obtain sufficient phonological understanding and have enough practice in the use of phonological and word structure clues that it frees them to attend to comprehension. This conclusion ran counter to the accepted beliefs about phonics instruction.

More than 50% of the students indicated that their plans for the future were different than when they enrolled. Seventy percent of participants noted that they had higher self-esteem and 60% had job changes which were upwardly mobile.

Strengths: This study had an adequate design. Three rigorously selected samples were compared to one another. Many variables were analyzed, compared, and correlated. The data collected generated quantitative and qualitative information. This type of study can help literacy practitioners in the classroom.

Weaknesses: There were too many assessment instruments. There were low sample sizes. Description of data collection methods was weak. Too many reading skill variables were analyzed and some seemed redundant. Because of the way it was structured, Project READ and this study would be difficult to replicate.

Snoddy, J. (1990). *Macomb Reading Partners research report.* Clemens, MI: Macomb County Library. (ERIC Document Reproduction Service No. ED 380 560)

Purpose: This study evaluated Macomb Reading Partners (MRP), a one-to-one volunteer tutoring program of the Macomb Literacy Project. The primary objective of the study was to examine the reported motivations of adults with low levels of literacy who seek entry into a literacy program. It also sought to investigate the conclusions of Aslanian and Brickell (1980), who found that adults in transition or experiencing a trigger event (such as divorce, being laid off, finding a new job, or illness) tend to seek new learning experiences. The two major research questions were: (a) What are the motivations reported by low-literate adults for entering a volunteer literacy program; and (b) What are the levels of literacy of the adults in this study? The study also focused on the employment patterns of participants and their coping or concealing strategies in a literate world.

Variables: The outcome variables were gains in reading grade levels and the application of literacy skills in daily lives. The study also summarized participant responses to the questions: "Do you feel better about yourself?" and "Why or in

what ways do you feel better about yourself?" The responses were inductively coded and grouped into the categories of improved literacy, enhanced self-confidence or self-esteem, personal accomplishment, and enhanced job opportunities or performance.

Population: Selected participants had to have been enrolled in the literacy program for at least six months and have no mental, emotional, auditory, visual, or neurological impairments. Students' grade-level reading equivalent ranged from primer to fifth grade. Seventy-three percent were men and the mean age was 38. Seventeen percent had completed grades 6-8, 40% grades 9-11, and 43% completed high school. Most were employed and approximately 60% worked in the automotive field.

The sample was selected from the list of participants who remained after the first two criteria were met. Subjects were then selected randomly and contacted by telephone about their availability and willingness to participate. This procedure continued until a sample of 30 was selected. The researchers believed this sample was representative of all participants in the program.

Design: The design was pre-post comparison. Quantitative data were reported and analyzed by using frequency counts, measures of central tendency, and other descriptive comparisons. The data generated from the selected sample were compared with the general population of MRP.

Data Collection: This study lasted approximately one year. Planning began in October 1989, data collection ended in July 1990, and data analysis was completed by September 1990. Program participant files were used to collect information about experiences with tutoring and to validate information gained during interviews. Interviews were conducted by the researchers at the beginning of the study and at its completion. Interviews generally lasted an hour. Researchers took extensive notes throughout the interviews (they were not taped). Responses were inductively coded and grouped into categories. A comparison group was not interviewed.

All students at MRP were tested at six-month intervals, a procedure that continued throughout the study. Initially students were tested by a trained member of the staff. Thereafter, the tutor administered the test. Program staff scored and recorded the results.

Instrumentation: The Word Opposites Test of the Botel Reading Inventory was used to measure reading gains. Life skills and self-esteem were explored by an

interview protocol devised by the researchers based on a study by Darkenwald and Valentine (1984). Four pilot interviews were conducted and the protocol was revised slightly.

Findings: The average reading gain per month was .204. In general, the results showed that the lower the grade-level equivalency of an adult at entry the greater the gain per month. Furthermore, the older student, aged 40-58, had higher per month achievements than younger participants. The average monthly gain was significantly higher for those tutored for 10 months or less than for those tutored 13 months or more. Qualitative data indicated that many of the students had changed to more effective reading strategies.

All participants answered affirmatively when asked, "Since you started this program, have you used your reading skills to do something you couldn't do before, or to do it better?"
Study subjects were asked to name some of those things. All the answers were delineated. The most common were reading a menu, mail, Bible, newspaper, and magazine article. Voting was also mentioned fairly often. Ninety-seven percent of the respondents reported feeling better about themselves. They also mentioned most often that feeling better was due to improved literacy and enhanced self-confidence or self-esteem.

Strengths: In general, the research design was adequate. Quantitative data were measured against a comparison group. There was a solid interview protocol and rigorous analyses of qualitative data. Researchers based their study on and compared their results to previous research.

Weaknesses: The sample was very small. Given the test used, true reading-gain results could be questionable (e.g., no reading in context). Some of the data were self-reported.

Turner, R., & Stockdill, S. (Eds.). (1987). *The Technology for Literacy Project evaluation. A special report from the Donor Review Board.* St. Paul, MN: Saint Paul Foundation. (ERIC Document Reproduction Service No. ED 295 028)

Purpose: The Technology for Literacy Center (TLC) implemented a project designed to investigate and execute new, innovative ways to teach literacy skills to adults living in the greater St. Paul area. It had several components: direct service, staff development, research, and incentives grants to existing literacy organizations. TLC developed a competency-based program built on a mastery

system of instruction. The project implemented formative and summative evaluation plans. This abstract describes the student impact results of the summative evaluation.

Variables: Impact variables were reading and mathematics achievement. Attrition rates and reactions to the TLC approach were also measured.

Population: This study focused on 165 learners who enrolled between September and November of 1986. They were considered the summative group. Most of them were English-speaking adults who lived in the St. Paul tri-county area. Eight-one percent (81%) of the learners read below the eighth grade level at intake and 41% of them had not previously enrolled in a literacy program. Fifty-one percent were White, 28% Black, 8% Hispanic, 5% Asian, and 5% Native American. All were voluntary students. Only 50 were still in attendance when achievement gains were measured.

Design: Formative and summative evaluation plans were implemented. The outcomes of the summative group were compared to a control group of other TLC enrollees. They were also compared to learners in local and nationally recognized programs. All of the achievement data gathered were reported quantitatively. Focus group data were analyzed qualitatively.

Data Collection: A formative evaluator, employed by the supporting foundation, designed a system for data collection, and collected and analyzed most of the data. Data were regularly collected from student files, which were updated with each student visit. Data were aggregated quarterly. Students were given the TABE at enrollment and in April for everyone who had attended at least 12 hours of instruction.

Focus groups were used to collect qualitative data. Three were conducted by the primary summative evaluator during TLC's regular hours. The interviews followed a six-question protocol. A total of 20 people took part in the focus groups.

Instrumentation: Instruments used to collect data were standardized achievement tests, group interviews, exit interviews, student questionnaires, learner activity logs, and case studies. The TABE was the standardized achievement test. Criterion-referenced tests were also developed to document progress on the computer-based modules.

Findings: The outcomes of the summative group were as follows (numbers were reported as means):

The composite reading gain was .75 grade level for students who tested between 0 and 4 on the pretest (n = 15). The gain in comprehension was .98 grade level. The vocabulary gain was .6 grade level. This group averaged 47.2 hours of instruction. It was calculated that 63.2 hours were needed to make a full grade-level change in reading, 48.2 hours were needed for a full grade- level change in comprehension, and 78.7 hours were needed for such a change in vocabulary.

The composite reading gain was .85 grade level for students who tested between 5 and 12 on the pretest (n = 23). The gain in comprehension was 1.13 grade level. The vocabulary gain was .79 grade level. This group averaged 44.5 hours of instruction. It was calculated that 52.5 hours were needed to make a full grade-level change in reading, 39.6 hours were needed for a full grade- level change in comprehension, and 56.6 hours were needed for a full grade-level change in vocabulary. In sum, the impact of TLC upon the summative group was positive for reading comprehension and math, but not for reading vocabulary. The control group showed no such gain in comprehension.

The researchers also provided a comprehensive analysis of the impact of hours of instruction in relation to achievement gains. TLC's results were also compared to the three validated NDN literacy programs. The researchers concluded that TLC's reading gain results were "in the ballpark" with the three programs. However, the same conclusion was not reached for math gains. JCARP's students showed 13.7 hours per grade-level change on the ABLE compared to TLC's 45.4 hours.

Qualitative data indicated that TLC participants felt they were learning and many of the learners described the differences it had made in their lives--reading to their children, keeping pace with their children, enhanced self-esteem, and ability to be self-motivated.

Strengths: This was a solid experimental study with a strong summative evaluation. Analysis of data was very comprehensive and well described. There was a control group.

Weaknesses: The sample size was small for measuring impact gains. Hours of instruction were limited for many of the participants. Attrition rates were high.

Wasson, J. (1965). *Evaluation of an eight week adult education program.* St. Paul, MN: Ramsey County Welfare Department, Work and Training Program. (ERIC Document Reproduction Service No. ED 021 194)

Purpose: The Ramsey County Welfare Department and the St. Paul Public Schools conducted an eight-week summer adult education program for public assistance recipients. The clients were referred to a work experience program, a work training program, or an education program. The purpose of the study was to describe and analyze the outcomes of the educational program, and relate those outcomes to student demographic and psychometric characteristics.

Variables: The variables measured were reading and math gains, changes in work values, and student perception to the program. Changes in counselor description of clients and counselor perception of program were also measured.

Population: The population of 34 males and 19 females were clients of the Ramsey County Welfare Department's Work and Experience Project. All had an average IQ. All the males and one female were married. Three females were single and 15 divorced. The males ranged in age from 19 to 52 years, with a mean of 32.0. The females ranged from 23 to 46 years. Forty two of the participants were White and 10 were Black. Forty-one percent of the males and 79% of the females had been unemployed for more than 52 weeks. Highest grades completed were the following:

Highest Grade Completed	Males	Females
6th grade or less	14.7%	
7th grade or less	5.9%	
8th grade or less	5.9%	10.5%
9th grade or less	26.5%	31.6%
10th grade or less	29.4%	21.0%
11th grade or less	17.6%	21.0%
12th grade or less	2.9%	15.8%

Design: The study had a pre-post comparison design.

Data Collection: Reading, math, and psychometric tests were administered by a trained psychometrist in groups of 8 to 12 during two half-days of testing. Reading and math instruments were administered three times during the program period: at intake, during the first week of class, and during the last week of class.

Instrumentation: The Gates Reading Survey was administered to measure reading speed, vocabulary, and comprehension. The Jastak Wide Range Achievement Test measured computational ability. Both instruments yielded raw and grade scores. A scale to measure work- value changes was administered. It was a 53-item measure of work attitude developed by Dr. Arthur Bradely and the Minneapolis Veterans' Administration Hospital. The Army General Classification Test measured intellectual capacity. Percentiles were transformed to IQ scores. The Minnesota Paper Formboard was used to test spatial reasoning. The Kruder Preference Record, Vocational, Form CH was administered to measure vocational preference.

Findings: Reading speed increased from 7.9 to 11.2 for the thirty participants who had valid pre- and posttest reading scores. Reading vocabulary increased from 9.3 to 10.3 and reading comprehension from 9.5 to 10.5. The average grade-level increase of math scores was 1.92. Seventeen people took the GED test. Six passed and 11 failed. The data suggested that those who scored lower than 9.0 at intake were not able to pass the GED after eight weeks of instruction. All who read 10.0 and better at intake passed the GED test.

Upon completion of the course, 36% were either going directly to work or into an employment training course. These training programs included janitorial, dietary assistant, nurse's aide, laundry, and orderly courses. Thirty-eight percent chose to enter educational programs.

There were no significant changes in the students' responses to the Kruder work-value scale.

Strengths: Valid assessment instruments were used. Variables were correlated. The research design and data collection methods were adequate.

Weaknesses: There was a small sample size. There was no control group.

White, G. (1990). *A comparative study of adult education Indianapolis/Richmond. Third party evaluation final report.* Indianapolis, IN: Indiana Opportunities Industrialization Center of America State Council.

Purpose: This study sought to compare the effectiveness of traditional classroom instruction to CAI for adults enrolled in ABE classes. Its purpose was to measure the effectiveness of the methods in raising the levels of basic skills after 80 hours of instruction. Effectiveness of instruction was also correlated with the various learner styles of the students. The CAI site was located in Indianapolis, IN; the traditional site in Richmond, VA.

Variables: Outcome variables measured and compared were reading and math achievement, retention rates, and self-esteem.

Population: One hundred and forty-nine students enrolled, but only 50 met the criteria for comparison purposes. The majority were women ranging in age from 18 to 67 years. The mean entry reading level on the TABE was the equivalent of 7.5.

Design: The design was pre-post comparison.

Data Collection: Methods included classroom observation, student survey and interviews, reviews of instructional records and materials, joint site meetings, and interviews with project administrators. Data was collected upon entry, at 30-day intervals, and upon exit over a period of 18 months.

Instrumentation: The ABLE was used.

Findings: The average gain for CAI students was 2.6 grades and 1.84 for traditional students.

Strengths: Effects of methods of instruction were compared. Effectiveness of methods of instruction was correlated with various student learning styles. Anecdotal information regarding workplace literacy programs was comprehensive.

Weaknesses: Most data were self-reported. There was no clear research design.